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ABSTRACT

The manual is explained to be for parents of physically handicapped children attending the Children's Rehabilitation Section at the University Hospital School, The University of Iowa. Activity descriptions and construction information on equipment are suggested for use by other personnel such as physical education or special education teachers. Guidelines are given for planning the home program. Suggestions for teaching physical skills are provided in a major section. Discussed (in Part I) are basic developmental activities which progress from head lift to walking skills, and (in Part II) elementary skills such as catching and self testing, equipment, starting positions, and skill analyses. In the subsequent section on braces, information is given on application, removal, and maintenance of braces. Photographic illustrations of orthopedic apparatus and physical education equipment is shown in addition to line drawings for the construction of homemade apparatus. A glossary of 11 terms is included. (Author)

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Physical Activities for Handicapped Children in the Home

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Orrin H. Marx, M.A.

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. . . the urge for movement is present in all
children and must be satisfied to insure
natural progression of the growth processes . . .

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O.H.M.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
SUGGESTIONS IN TEACHING PHYSICAL SKILLS	3
Part I. Basic Activities	6
Basic Activities Considered	7
Activities	8
Part II. Elementary Skills	15
Elementary Skills Considered	16
Activities	17
BRACES FOR THE SMALL CHILD	36
Part I. Applying and Removing Braces	37
Part II. Care of Braces	40
PHOTOGRAPHIC ILLUSTRATIONS OF APPLIANCES AND APPARATUS USED IN TRAINING PHYSICALLY HANDICAPPED CHILDREN	42
PHOTOGRAPHIC ILLUSTRATIONS OF PHYSICAL EDUCATION EQUIPMENT USED IN TRAINING PHYSICALLY HANDICAPPED CHILDREN	48
ILLUSTRATIONS FOR HOME CONSTRUCTION OF APPARATUS	53
GLOSSARY	72

INTRODUCTION

Part I, Basic Skills and Part II, Elementary Skills were first printed for parents of children attending the Children's Rehabilitation Section (formerly referred to as the University Hospital School for Severely Handicapped Children) at the University Hospital School, The University of Iowa, Iowa City.

The purpose of Part I is two fold: (1) to serve as a guide for parents in understanding how the child should perform recommended activities in the home program, and (2) to provide parents with suggested activities for the child with a low level of physical ability.

The activities described in Part I, usually called "Developmental Activities" were selected for the following reasons: (1) the activities are not complicated, (2) the activities are basic ones leading toward independent walking or crutch walking, (3) the activities are useful in providing fundamentals for children who are delayed in development or have abnormal body movements, (4) the activities lessen the possibility for certain deteriorations that may occur in the physically handicapped child, and (5) the activities can be used to help satisfy the essential urge to move even though the physical ability of the child is low.

When planning the home program one should use the following guide lines: (1) follow medical recommendations, (2) plan a daily activity period, (3) select four or five activities that the child is capable of performing, but do not allow the child to waste time each day performing skills that are already well developed. Select activities that encourage progression. Activities one through fourteen are listed in the order of their progression, (4) select a specific place in the home to perform the activities, (5) schedule workouts at a specific time of the day. If the child sits

inactively for long periods of time, a morning and afternoon workout is very beneficial, (6) spend approximately twenty minutes for each workout, (7) do not set a time limit for constructive play, and (8) create an atmosphere of having fun even though the activities require hard work and mobility of the child is limited.

The purpose of Part II is three fold: (1) to provide the parents with a selection of activities that are useful in developing proper body movements and at the same time develop skills that are essential for leisure time activities, (2) to serve as a guide for parents in understanding how the child should perform elementary skills, and (3) to provide parents with an understanding of the major techniques involved in elementary skills.

It is important for a child to develop skills for his own safety, social acceptance and for general body fitness. He must be able to handle his body as he moves, maintain his balance in performing different movements, learn to adjust his movements to objects and people in his environment, have the skill to prevent environmental accidents, and to develop his physical skill to be accepted by his peer group. The activities in Part II, Elementary Skills were selected because they are fundamental for learning more complex physical activity.

If at any time difficulty is encountered in understanding a specific skill, review each step carefully. The parent should then perform each step so that there is an understanding of the skill. The nonhandicapped person should have no difficulty in performing these skills because they are natural skills that can be accomplished with a minimum of practice.

SUGGESTIONS IN TEACHING PHYSICAL SKILLS

When teaching physical skills to physically handicapped children, one will encounter many problems. The majority of these problems pertain to the extent of physical involvement, educational retardation, speech or sensory system deficits, lack of educational opportunities, limited physical experiences, poor motivation, inadequate discipline, short attention span, and immature social behavior - either singularly or in combination.

In order to help parents minimize problems in developing a daily activity program, several suggestions are pertinent. Although the list is incomplete, the parent should be able to employ these ideas, create a teaching atmosphere acceptable to the child, and develop a sound activity program in the home.

1. Many physically handicapped children lack natural physical ability; therefore, physical skills must be learned.
2. When selecting physical skills, always consider the degree of difficulty, safety for the child, and future value of each skill.
3. During the first two or three exercise periods the child should participate in activities that can be performed with ease, then proceed to more complex activities.
4. While using simple activities during the initial stages of the home program, attention should be centered on developing proper work habits in the child. Furthermore, during this time the parent should develop his own habits. Working in a coordinated fashion is a must for the parent and the child.
5. Give the program time to develop because it may take several days before the child will understand what you expect of him.

6. Developing an activity routine is helpful for both the parents and the child.
7. Always supervise or assist the child until he can perform skills properly.
8. Movements must be executed slowly in order for most physically handicapped children to learn physical skills. When the child learns to perform a skill in the proper manner, his speed of movement should be increased gradually.
9. In many instances the physically handicapped child is unable to perform the whole activity; therefore, it is necessary to separate the activity into one or more parts. Such training in divided portions may be necessary until all aspects of the activity are accomplished.
10. Train the child to perform skills to the best of his ability. Encourage proper execution of each movement, but do not expect perfection.
11. Regardless of age, readiness for learning physical skills may not be apparent. If the child requires practice in using his arms or legs, then equipment generally used in more advanced sports skills will be helpful as a motivating and training tool.
12. Review the list of suggested skills frequently. Develop variations in the original skill to avoid boredom. Provide variety at the appropriate time.
13. Overtrain the child. Many physically handicapped children forget easily; therefore, if practical activities are overlearned, the chances are less likely that the child will forget how to perform the movements which are involved in the activity.
14. Periodically, practice skills previously learned.

15. Measurements such as number of repetitions, total distance, accuracy, time, and counting the number of steps taken during hand-knee crawling or walking are useful in measuring daily progress. Comments pertaining to the child's attitude and behavior should also be recorded.
16. In contests, winning is not the major goal; learning how and gaining experience comes first.
17. Relax and have fun, but get the work done.

PART I

BASIC ACTIVITIES

BASIC ACTIVITIES CONSIDERED

		Page
1.	Head lift	8
2.	Front leaning rest position	8
3.	Prone, resting on forearms	8
4.	Abdominal drag	8
5.	Abdominal crawl	8
6.	Prone position, assume a sitting position	9
7.	Rolling right and left from the supine position	9
8.	Hand-knee stand	10
9.	Hand-knee crawl	10
10.	Knee stand	11
11.	Fall from the knee-stand position	11
12.	Knee walk	12
13.	Pull up to a standing position	13
14.	Walking	13

ACTIVITIES

HEAD LIFT

Supine position, lift head in an attempt to sit up. Minimal assistance may be given by placing the hand at the back of the head. Do not allow the child to turn the head to the right or left during the exercise. Ten times for each workout.

FRONT LEANING REST POSITION

Prone lying, extend the forearms, raise head and chest off the floor. Ten times for each workout.

PRONE, RESTING ON FOREARMS

Raise the head and chest as in the front leaning rest position. Whenever the child is on the floor insist that he relax in this position rather than on his back. Hold the position as long as possible.

ABDOMINAL DRAG

Prone lying, the arms and hands are used to pull the body forward. There are no restrictions on the distance traveled during each workout. Check frequently for friction burns on elbows, knees, and feet.

ABDOMINAL CRAWL

To perform the abdominal crawl, the child must be in the prone position with the right arm extended forward and the left leg flexed at the hip. The child then moves forward by flexing the right arm and extending the left leg. To continue the forward movement, extend the left arm forward and flex the right leg at the hip, then flex the left arm and extend the right leg. A continuous movement forward is maintained by alternating the arms and legs. The abdominal crawl may also be

accomplished with the forearms flexed rather than with the arms fully extended. In this case, discourage flexion of the hands and wrists. Check frequently for friction burns on the elbows, knees, and feet. The child should crawl at least ten feet for each workout; however, if the child has a low level of physical ability, shorten the required distance.

PRONE POSITION, ASSUME A SITTING POSITION

The child moves his body so that he can be in a position to sit up. He may roll over to his side using the arms, trunk, and legs to get up, or he may even push up to a hand-knee stand, then roll to one side to assume the sitting position. Minimal assistance may be given. Three to five times during each workout.

ROLLING RIGHT AND LEFT FROM THE SUPINE POSITION

In order for the child to roll in a straight line from the supine position, the head, the arm, the shoulder, and the leg must initiate the movement. Starting from the supine position the child extends his right arm and places it to the side of the head, the left arm is placed across the chest in the direction of the roll, and the left leg is flexed at the hip. The child then rolls right to the prone position. Both arms are now extended along the sides of the head and the body is straight. To continue rolling to the right and return to the supine position, the child must turn his head to the right, flex the right arm, flex the right leg at the hip, and roll over. When rolling to the left, opposite movements are required.

If the arms and shoulders are poorly coordinated or if tension occurs so that the arms cannot be raised above the head, the arms should be placed downward at the sides of the body. When the child rolls over to

the prone position, do not allow the arms to become trapped under the body; also, if the child involuntarily raises his head when rolling over to the supine position, do not allow the back of the head to strike the floor at the moment the roll is being completed. The child should roll at least twenty feet in each direction for each workout; however, if the child has a low level of physical ability, then perform four complete rolls in each direction. As coordination improves and habits are developed, gradually increase the speed of the roll and the distance.

HAND-KNEE STAND

The arms should be straight, hands flattened on the floor, and fingers extended with the thumbs out. A closed hand may be used if the child is unable to extend his fingers. The arms and hands should be directly under the shoulders, knees directly under the hips, back straight, head up, and the child looks straight ahead. Maintain this position as long as possible. If assistance is required, kneel behind the child and hold onto the right and left hip joint of the brace. Hold the child at the hips if braces are not worn and in position if necessary. Allow the child to take his body weight on his arms. Keep a record of the total time he can hold the position. An increase in time will indicate the amount of improvement in strength, endurance, body control, and effort put forth by the child.

HAND-KNEE CRAWL

The child should be in the hand-knee stand position. The right arm is first moved forward, then the left leg; the left arm is then moved forward, followed by the right leg. The head should be up and the back straight. The child should execute each movement slowly and deliberately. Do not allow the child to drag his legs or sit on his legs at any time.

The child should crawl at least twenty feet for each workout; however, if the child has a low level of physical skill, the total distance will be less.

KNEE STAND

The body is held erect while being supported on the knees and lower legs. The child should attempt to maintain his position. Kneel behind the child and hold on to the right and left hip joint of brace if assistance is required. Hold the child at the hips if braces are not worn. If it is too difficult to support the child by the hips (as in the case of those with some types of cerebral palsy), support the child by placing your left arm around the child with the left hand at chest level. The right hand should be placed on the child's buttocks. Push upward with the right hand and at the same time balance the child with your left arm and hand. Encourage the child to keep his head up and arms down at the sides in a relaxed manner while you assist in keeping the body erect. Hold position at least ten seconds, then relax, but do not allow the child to sit back on his legs at any time. If arm control is poor, added support should be given to prevent falling. Repeat the activity five times for each workout.

FALLING FROM THE KNEE-STAND POSITION

The child should be in the knee stand position. On command, the child should fall forward placing his hands directly under the shoulders and his knees directly under the hips. The back should be straight and his head up. (Hand-knee position).

If assistance is required, kneel behind the child and hold onto the right and left hip joint of the brace. Hold him at the hips if braces are not worn. On command, have the child fall forward to the hand-knee

position. Hold the hips secure so that the trunk can flex to assume the hand-knee position. Holding the hips secure will eliminate extension of the trunk. If arm control is poor, place the child's arm pits between your thumb and first finger. The arms can then be placed in the proper position and at the same time the trunk can be held in place. The child should perform the activity five times for each workout, depending upon the ability and strength of the child.

KNEE WALK

The child should be in the knee-stand position. In order to knee walk, body weight must be shifted to the left knee, and at the same time, the right knee is raised slightly and moved forward; then the body weight is shifted to the right knee and at the same time the left knee is raised slightly and moved forward. The forward movement is continued by alternating from right to left knee. If assistance is required, kneel in front of the child, hold his hands with the forearms partially extended, allow the child to move forward slowly and deliberately. If arm control is poor, do not allow the child to fall forward and possibly injure his face. Fifteen to twenty feet each workout is desired, depending upon the ability of the child.

The following is a recommended method for holding the child's hands during activities such as assisted sit-ups from the front, assisted knee walking from the front, and assisted walking from the front or other activities that require that both hands are held simultaneously. With one's thumbs pointing upward, have the child grasp them as one would grasp a vertical rod. Place your remaining four fingers over the back of the child's hands and wrists. Hold the child's hands with the palms facing inward. This is a very stable grasp and serves to keep the wrist

down and the hands in a functional position.

PULL UP TO A STANDING POSITION

The starting position may be from the prone position, the hand-knee stand position, or from the knee-stand position. Place the hands grasping the stationary object above the level of the face. The child should then place his right foot directly under the body for support, and then pull the body upward as the right leg extends to assist the arms in raising the body. When the right leg is near full extension, the left foot should be brought into the proper position immediately and the child then assumes the standing position. To return to the starting position, reverse the movement. If hand grasp or balance is poor, supervise or assist the child at all times. Five times for each workout is desired, depending upon the ability and strength of the child.

WALKING

If the child is capable of walking independently or with assistance, it is desired that the following basic principles be employed:

1. Arm reciprocation: Left arm forward, right arm back; right arm forward, left arm back.
2. Arm and leg opposition: When the right leg swings forward, the left arm swings forward. When the left leg swings forward, the right arm swings forward.
3. Heel to toe transfer of weight: When the right leg swings forward, the heel of the foot should be placed on the floor first. As the body continues to move forward, the weight of the body is transferred from the right heel forward through the foot to the toes of the right foot. At this time the left heel is placed on the floor and the same action takes place in

the left foot.

4. Foot placement and clearance in swing-through: The child should lift the knee and foot, swing the leg forward, and place the heel on the floor first. Do not allow the child to drag his feet on the floor while walking.

5. Encourage good alignment of all body parts: The child should stand tall with the shoulders back and the eyes looking straight ahead. If assistance is required during walking practice, be sure to follow the method recommended by medical personnel.

PART II

ELEMENTARY SKILLS

ELEMENTARY SKILLS CONSIDERED

		Page
1.	Warm-up exercises	17
2.	Catching	19
3.	Throwing (underhand, overhand, chest passing)	21
4.	Ball bouncing or dribble	24
5.	Batting	25
6.	Kicking	27
7.	Climbing	29
8.	Pushing and pulling	30
9.	Balance activities	30
10.	Hopping and jumping	31
11.	Stunts or self-testing activities	33

ACTIVITIES

WARM-UP EXERCISES

Equipment: Wooden dowel (rods of one-half to one inch in diameter and eighteen inches in length), light weight objects to grasp such as one or two pound dumbells, iron rod or pipe, book, bean bag or other similar pieces of material.

Starting Positions: Standing, sitting, supine, and prone.

Activities:

1. Raise arms forward, keeping arms straight at all times.
2. Raise arms above the head, keeping arms straight at all times.
3. Raise arms out to the sides, keeping arms straight at all times.
4. Lower arms to the sides, keeping arms straight at all times.
   (Items number 1 through 4 may be performed singularly or in combination).
5. Supine position with body straight. Flex thigh at the hip, bringing the knee toward the chest, and return to the starting position. Alternate legs. Repeat ten times for each workout.
6. Stand and sit:
   The child should stand grasping a stationary object at about the level of the chest. He comes to sitting position as if to sit in a chair, then returns to the standing position. The major movement should be in the legs and not in the hips. The feet should be placed directly under the body and pointing forward at all times. The legs should not rotate inwards. If surgery has been performed on the muscles at the back of the knee, the child should not be allowed to fully extend the legs when returning to the standing position. Train the child to extend the legs to approximately

three-fourths of full extension. If the child's grasp or balance is poor, supervise or assist him at all times. Repeat activity fifteen to twenty times for each workout.

7. Touch toe of shoe to platform:

Starting position is the same as in activity number 6. The child should lift the knee and touch the toe of his shoe to a platform at a level of approximately twelve inches from the floor. The height of the platform depends upon how high the foot can be raised. Do not allow the legs to rotate inwards or to be lifted sideways; trunk and hips should be held erect. Alternate feet after each touch to the platform. If the child's grasp or balance is poor, supervise or assist him at all times. Repeat activity fifteen to twenty times for each workout.

8. Sit-ups:

The child is in the supine position, the feet should be placed flat on the floor with the knees up. The legs and feet are together. In order for him to sit up, the legs should be held at the ankles by another person or restrained by an object such as a heavy sand-bag. The hands may be clasped behind the head, arms crossed at the chest, or the arms may be thrust forward when sitting up. The child may also pull on his pant legs, braces, or grasp his legs at the knees in order to sit up. The style used in sitting up depends upon the physical ability and strength of the child. To initiate the sit-up, the head is raised first and should not rotate to the right or left. As the head is raised, the shoulders are rounded and the trunk is flexed at the hips. At the completion of the sit-up, the back is rounded and the head forward. When returning to the

starting position, the movement of the trunk should be slow. As the head approaches the surface, care should be taken so that the back of the head does not strike the surface. A good technique to avoid discomfort to the back of the head and to improve the strength of the neck flexors is to insist that the child keep his chin touching the upper part of his chest during upward and downward movements.

If assistance is given from the front, always have the child take hold of your thumbs as in grasping a vertical rod. Place your remaining four fingers over the back of the child's hands to keep the wrists down and the palms of the hands facing each other. Minimal help should be given when assistance is required. Repeat the exercise ten times for each workout.

9. Push-ups:

Prone position, hands are on the floor to the sides of the shoulders. The body is lifted in a straight line with only the hands and toes touching the floor, the arms are straight, the head up, and the feet together. Support the feet so the body does not slide backwards. Placing the bottom of the shoes against the wall is an excellent method. Braces may be locked at the knee. If child cannot lift his lower back and hips, assist him until coordination is maintained. Alternate Exercise: Push up to hand-knee stand and return to prone position. Repeat exercise five to ten times for each workout, depending upon the ability of the child.

CATCHING

Equipment: Soft softball, volleyball or rubber playground ball 8 1/2 inches in diameter, clothes line rope.

Description is for right-handed children. The opposite applies to left-handed children.

Starting Positions: Standing independent or assisted, sitting, lying, or kneeling.

1. The child should stand in the stride position with the left foot forward and body weight evenly distributed on both feet.
2. The hands should be "cupped" and fingers relaxed. The distance between the palms of the hands is determined by the diameter of the ball.
3. The eyes should be watching the ball rather than the thrower's face.
4. The forearms should be flexed slightly. The arms should draw back toward the body slightly just as the ball makes contact with the hands. The same technique should be used when the child is in the sitting position. The drawing back of the arms (or "give" with the ball) lessens the chance of the ball to bounce out of the hands.
5. Toss (underhand) the ball slowly and from a short distance when exercising with the child learning to catch. A distance of from five to seven feet is satisfactory. It may be necessary to suspend the ball from a length of rope or simply hand the ball to the child (the suspended ball eliminates waste of time and work retrieving the ball). If the child cannot catch the ball or shows no improvement, continue the procedure to develop proper hand and arm usage required in catching a ball. Catching skill is difficult to acquire and will only improve with practice and maturity. Remember, even though the child may not be capable of catching the ball, he is still having fun and will continue to try.

6. Always toss, hand, or suspend the ball at about chest level.

7. Do not practice catching skills while the child is sitting in a wheelchair unless the child is not capable of sitting in a wooden chair (the wheelchair arm rests interfere with proper arm action and distract the child).

THROWING

Underhand Toss

Equipment: Two-inch diameter ball, softball or bean bag. Targets such as floor tile, waste basket, wall target, coffee cans, auto or bike tires.

Description of the activity is for right-handed children. The opposite applies to left-handed children.

Starting Positions: Standing, independent or assisted; sitting; kneeling.

1. The child should stand in stride position, feet apart with left foot forward, the right arm down at the sides, and eyes looking at the target.

2. The child should grip the object to be thrown comfortably with the fingers if possible. Swing the object slowly forward and backward with the body weight on the right foot, then swing the object slowly forward shifting body weight to the left foot while taking a short step. Flex the knees slightly when the object is released toward the target. Always keep the right toe of the shoe (back foot) on the floor until after the object is released.

3. The object may be released with the palm of the hand facing upward or with the palm of the hand facing downward. Note: check for proper grasp of the ball, release of the ball, swing through of the arm, shifting of the weight, and eyes looking at the target.

4. If the child cannot stand, place him in a wooden chair with his feet placed on the floor. Avoid the use of a wheelchair whenever possible.

5. Problems:

   a. If the legs and trunk extend when throwing from the sitting position, a sandbag or other simple appliance will help to hold the legs in proper sitting position. If the extension is too severe, be careful that the child does not tip over backwards. In due time sitting posture will improve and the leg-trunk extension will diminish.

   b. If the child tosses the object too high in the air, encourage an earlier release of the object, or the catcher may move closer to the child. If the child tosses the object to the floor, encourage him to hold the object for a longer period of time before releasing, or the catcher can move away from the child. The main objective is to obtain the proper grasp, arm movement, and release of the object to the catcher.

   c. If the child has difficulty in moving the arm, encourage proper throwing technique even though the movements are slow and incoordinated.

Overhand Throw

Equipment: Two-inch diameter ball, softball, or bean bag.

Description is for right-handed children. The opposite applies to left-handed children.

Starting Positions: Standing, independent or assisted; sitting; kneeling.

1. The child should stand in stride position, feet apart with the left foot forward, and the eyes looking at the target.

2. Grip the object to be thrown comfortably with the fingers, if possible, not the heel of the hand.
3. Swing the arm downward, backward, and upward as the weight is shifted to the right foot. Bring the object forward over the shoulder at about ear height or higher with the forearm flexed and the elbow high. Straighten the arm as the object is released toward the catcher, and at the same time step forward with the left foot. Follow through with the hand, fingers pointing toward the object.
4. Always keep the right toe of the shoe (back foot) in contact with the floor until after the ball is released.
5. If the child cannot stand, place him in a wooden chair with his feet placed on the floor. Avoid the use of a wheelchair whenever possible.
6. If the legs and trunk extend, follow the same rules as in the underhand toss.
7. If arm usage is poor or throwing is impossible, the forearm may be flexed so that the object is held at about shoulder level. The child then extends the forearm slowly and releases the object. This technique is a thrust-type movement and is common in young children. When the arm and shoulder movements improve or become more mature, the shoulder rotation type of throwing should be encouraged.

Chest Pass

Equipment: Volleyball, rubber playground ball 8 1/2 to 10 inches in diameter, or an intermediate-sized basketball.

Description is for right-handed children. The opposite applies to left-handed children.

Starting Positions: Standing, independent or assisted; sitting; kneeling.

1. The child should stand in stride position, feet apart with the left

foot slightly forward, knees slightly flexed.

2. The ball is held with both hands, fingers gripping the ball, and forearms flexed.
3. The elbows are held at the sides, the thumbs behind the ball toward the body.
4. The ball is moved downward slightly while the body weight is shifted to the right foot (back foot), then step forward with the left foot, a the same time straighten the arms, extend the fingers, and release the ball. Always keep the right toe of the shoe on the floor until after the ball is released. Weight is transferred to left foot as in taking a short step. Keep the eyes looking at the catcher.
5. If the child cannot stand, use sitting techniques as in other type throws.

This is a very important type pass for bilateral use of the arms and is very useful for ball control. The chest pass is a simple pass and should be used by children who are poor throwers, immature throwers, and by children who cannot throw.

BALL BOUNCING OR DRIBBLE

Equipment: Rubber playground ball, 8 1/2 to 13 inches in diameter.

Description is for right-handed children. The opposite applies to left-handed children.

Starting Positions: Standing, independent or assisted; or sitting.

1. The child should stand in stride position, feet apart with the left foot slightly forward, knees slightly flexed.
2. The ball is held with both hands. The left hand is near the bottom of the ball, and the right hand near the top.

3. The body should lean slightly forward and the eyes looking at the top of the ball.
4. In order to start the bounce, the child simply drops the ball to the floor. He should not slap the ball to the floor. Finger touch is obtained by lightly meeting the ball with the finger tips as it reaches the peak of the bounce.
5. The child should learn to develop a light finger press on the ball and loose wrist action. This does not mean vigorous hand-to-shoulder action. Apply just enough pressure or force on the ball to make the ball return to about the level of the waist.
6. If assistance is required, stand behind and slightly to the left of the child. Assist the right arm and hand in order to teach arm relaxation, timing, touch, and position of the hand. This may be necessary because many children do not understand the meaning of the words "relaxation," "touch," or other adult expressions.
7. Standing balance may be maintained by using one crutch, a straight-back chair, or other furniture. If the child cannot stand with support, practice may be carried on while sitting in a wooden chair.
8. Remember: Physically handicapped children do not have good coordination or timing; therefore, slowness of movement is very important in the beginning stages of learning physical skills.

BATTING

Equipment: Short, light-weight bats only; softball, rubber playground ball 8 1/2 inches in diameter, clothes line rope, batting T.

Description is for right-handed children. The opposite applies to left-handed children.

Starting Positions: Stand with feet parallel, toes pointing toward home base

with the left side of the body facing the pitcher. If the child cannot stand and if sitting balance is good, he may sit in a wooden chair.

1. Hold the bat with trade mark toward the batter.
2. Grip the bat with left hand just above the end of the bat, the right hand is placed above and touching the left hand.
3. The elbows should be away from the sides of the body and the left arm is parallel to the ground. Do not allow the child to rest the bat on his shoulder.
4. The child should face toward the pitcher and keep his eyes on the ball.
5. In the ready position the bat is backward and parallel to the ground and body weight is shifted to the right foot (rear foot).
6. The bat swings forward and is parallel to the ground, body weight is shifted forward, and a step with the left foot is taken in the direction of the pitcher. The right foot (rear foot) must stay on the ground to avoid twisting of the body. The trunk and the hips turn counterclockwise as the bat continues around.
7. The wrists should be "locked" at the time the ball makes contact with the bat.
8. Follow through with the bat to the left hand, then release the bat to the ground, and at the same time start to walk or run. Do not allow the child to throw the bat. Teach him to place the bat on the ground.

Note:

a. If the child is in the sitting position when batting, follow the same rules for holding the bat, getting into the starting position and swinging.

b. In case the legs and trunk extend when swinging the bat, a heavy sandbag or other appliance can be used to hold the chair, lower legs and feet in place until the child can control his body during the batting action. If arm, wrist, and hand action are poor, the swinging movements should be slow.

c. If the arm, wrist, and hand movements are poor, suspend the ball on a rope to simplify the skill. Suspend the ball at about waist level in the path of the bat.

d. The child should not concentrate on hitting the ball but concentrate on proper body control and batting technique.

e. Keep other children away from the batter.

KICKING

Equipment: Balls ranging in size from 8 1/2 to 13 inches in diameter, cage ball, football, bean bag.

Description is for right-handed children. The opposite applies to left-handed children.

Starting Positions: Standing in stride position with the left foot forward, sitting in a chair, or supine.

1. Place the ball directly ahead of the right foot or roll the ball toward the right foot.
2. The eyes should be looking at the ball.
3. A short step forward should be taken with the left foot and the right foot is moved backward, "cock" the knee and swing the right foot forward, straightening the knee, and strike the ball with the toe of the shoe.

4. If the physical ability of the child is poor, the following exercises are valuable in motivating the child as well as developing the skill.

   a. Supine position: The assistant should kneel at the feet of the child and grasp the soles of the shoe. The legs should then be flexed and extended as in riding a bicycle.

   b. Supine position: The assistant should kneel at the feet of the child and grasp the soles of the shoes. The legs should be flexed at the hips so that the knees are near the chest. Then direct the child to extend one leg as the hand applies force to the sole of the shoe. The child should perform five pushes with each leg for each workout.

   Alternate exercise: Instead of grasping the sole of the shoes and exerting force as in exercise 4-b., the assistant may place the soles of the shoes on his chest. The child should then be directed to extend both legs in an attempt to push the assistant backwards. This activity has always created a challenge and fun for the child. Repeat the exercise five times for each workout.

   c. Supine position: Suspend an 8 1/2 inch diameter ball at a level approximately ten inches from the floor. The child should then be directed to kick at the ball. Practice kicking with both the right and left legs.

   d. Sitting in wooden chair: Place an 8 1/2 inch diameter ball on the floor in front of the child's right foot or roll the ball slowly toward the right foot. Direct the child to kick the ball with his right foot. If the child does not respond to kicking the ball or the skill is too difficult for him, then place a

3-inch by 3-inch or 4-inch by 4-inch bean bag on the toe of the shoe and direct the child to remove the bean bag by extending the kicking leg. Practice kicking activities with both right and left legs.

CLIMBING

Equipment: Climbing ladder 6 feet in length and 6 inches distance between rungs. The ladder should be set at approximately 45 degrees.

Description is for right-handed children. The opposite applies to left-handed children.

Climbing patterns will vary with the individual. The following description does not require hand and foot opposition.

1. The child should stand facing the ladder with the hands grasping the rung located above the level of the face. The right foot should be placed on the first rung, the left foot is placed on the second rung, and at the same time the left hand grasps the next highest rung; the right foot is then placed on the third rung, and at the same time the right hand grasps the next highest rung. Continue climbing up the ladder moving left foot, left hand, then the right foot and right hand. The movements should be reversed when descending the ladder. Do not discourage the child from climbing the ladder by alternating the hands and feet.
2. Safety Factors:
   a. Always grasp the rear part of the trousers at the waist or roll the rear part of the dress at the waist to hold the climber secure.
   b. The child should always grasp the ladder rung at a level which is as high as or higher than the face with the hands spread to

the width of the shoulders. The feet should be spread to the width of the hips.

c. Do not allow the child to climb the ladder unless he is wearing shoes which have heels.

PUSHING AND PULLING

Equipment: Rope, wagon, box, balls, 13 inches or more in diameter.

Starting Position: Standing; sitting; prone position or supine position.

Activities:

1. Tug-of-war.
2. Supine position, pull up to sitting position or standing position using a 3/4-inch diameter rope secured to the wall or held by an adult.
3. Pull a box loaded with sandbags or other objects to increase its weight. Pull the object with a tricycle or pull by hand.
4. Pull or push an empty wagon or a wagon loaded with objects to increase its weight.

BALANCE ACTIVITIES

Equipment: Balance beam (2" x 4" x 10' board), seams between floor tile squares, street curbing or railroad tracks. Use the wall, chair, table, or other objects for support, if necessary. Sticks and boards of assorted heights and width.

Activities:

1. Balance beam
   a. Walk the balance beam forward, alternating the feet. Arms should be held sidewards for balance. Walk beam with assistance or independently.
   b. Walk balance beam forward, one foot on the board and one foot on the floor. Walk with assistance or independently.

c. Walk balance beam sidewards, weight on the ball of the foot. Walk with assistance or independently.

Note:

(1) If the child wears braces without a pelvic band attached, he can practice items a, b, and c. If a pelvic band is attached to the braces, he can practice items b and c.

(2) Give minimal assistance and be aware that the child may slip off the board and be injured.

(3) There are many simple exercises that can be performed on the balance beam. These can be devised as the situation arises.

2. Stand on right foot with assistance or independently.
3. Stand on left foot with assistance or independently.
4. Walk and step over sticks or boards. Place four or five boards of assorted height and width on the floor approximately two feet apart. For small children it may be necessary to place the boards closer together. The child should walk and step over each board without touching them with his shoes.
5. Place a bean bag on the child's head and direct him to walk. If the child cannot walk, the activity may also be performed in the hand-knee stand position and knee-stand position.
6. Standing balance should be practiced independently or with minimal assistance.

HOPPING AND JUMPING

Equipment: 9" x 9" floor tile squares, sticks and boards of assorted width and height, clothes line rope, trampoline, or jumper unit.

Activities:

1. Jump upward on both feet, assisted or independent.
2. Jump upward on right foot, assisted or independent.
3. Jump upward on left foot, assisted or independent.
4. Jump forward on both feet, assisted or independent.
5. Jump forward on right foot, assisted or independent.
6. Jump forward on left foot, assisted or independent.
7. Hop on both feet, assisted or independent.
8. Hop on right foot, assisted or independent.
9. Hop on left foot, assisted or independent.
10. Jump off an eight or twelve-inch box or step, assisted or independent.
11. Jump over a stick or board, assisted or independent.
12. Jump rope.
13. Standing broad jump. Try to achieve a jump of twenty-eight to thirty-six inches.

Basic Principles:

1. When jumping upward on both feet, the body should be in a squat position with knees flexed. The arms should be thrust upward and the body pushed off the floor by the toes.
2. Upon landing, the body should be in the squat position. The weight of the body is first taken on the forward part of the feet, not on the heels or flat footed.
3. During the broad jump, the body weight should follow the forward movement of the arms.
4. When hopping on both feet, the forward movement of the body is controlled by the toes and balance is maintained by the arms.

When hopping on one foot, the balance is maintained by the non-supporting leg and the arms.

5. During all jumping activities, the feet should be parallel and pointing straight forward.

   Caution:

   If the child wears long leg braces, with or without a pelvic band, limit his activities to hopping, as severe jolts to the floor will damage braces.

6. During all jumping activities attention should be centered on developing the take off on both feet, coordination, and balance.

STUNTS OR SELF-TESTING ACTIVITIES

Equipment: Horizontal bar, 1 inch in diameter; lawn, soft rug, or floor.

Activity:

1. Forward roll:

   The child should assume a squat position with his hands forward on the mat. In order to roll forward he should lean forward, tuck the head under with the chin on the chest, then push off with the feet. The body should stay in the tuck position with the legs and feet held together until the roll is completed. When performing the forward roll, the body is supported by the arms and hands rather than with the head. Contact with the surface should be on the lower neck and shoulders.

   Safety Factor: Always assist the child until he can perform the skill safely. Protect the child's head, neck, and face at all times until you are positive the the skill has been mastered.

2. Human ball:

   The child should sit on the floor with his knees drawn up and close to the chest. The knees are grasped firmly in front or behind. Direct the child to roll over sideways and continue rolling. If the roll is continuous, the body will travel in a circle path. Practice rolling in a straight line.

3. Wheelbarrow:

   The child assumes a prone position with the hands on the floor slightly to the sides of the shoulders, and the partner grasps the lower legs near the ankles. The child lifts his body in a straight line with only the hands touching the floor and with the arms straight; the partner lifts the legs. The child then walks on his hands, and the partner follows supporting his legs.

4. Chinning:

   The child should grasp the horizontal bar with the back of the hands or with his fingers toward the body. The arms and legs should be fully extended and the feet free of the floor. He should then raise the body as high off the floor as possible. Then lower the body to the starting position. The activity should be repeated as many times as possible. If assistance is necessary, the child should be grasped by the waist line of his trousers or at the sides of his thighs.

5. Straight arm hang:

   The child should grasp the horizontal bar with the back of the hands or with the fingers toward the body. The arms and legs should be fully extended and the feet free of the floor. Hang in the extended position as long as possible. Count the number

of seconds he can hold on to the bar before releasing his grip. If assistance is necessary, the child should be grasped by the waist line of the trousers or at the sides of his legs.

BRACES FOR THE SMALL CHILD

PART I

APPLYING AND REMOVING BRACES FOR THE SMALL CHILD

APPLYING AND REMOVING BRACES FOR THE SMALL CHILD

I. Procedure for Applying the Braces

Step 1. Place the child in the supine position with his legs extended. Remove trousers and underpants.

Step 2. Place the braces fully extended along side the child and open the abdominal, thigh, and lower leg bands, then open the knee and ankle T-strap. Finally, remove the shoe laces at least halfway and loosen the remaining portion. If Velcro bands are used, place the top band under the bottom band to prevent the bands from refastening.

Step 3. Place your left arm under the child at shoulder level and your right arm under the back of the knees. Lift the child and place him gently in the braces.

Step 4. While the braces are fully extended slide his toes into one of the shoes, then flex the child's leg and the brace at the knee and slide the remaining portion of the foot into the shoe. The heel should be all the way down in the shoe. <u>If the toes are in proper alignment and the stocking smooth, lace the shoe and buckle the T-strap snugly</u>. Fasten the thigh band, lower leg band, and knee strap. Follow the same procedure for the second leg and brace, then fasten the abdominal band on the pelvic band loosely so that the child is comfortable while in the sitting position.

Step 5. When all bands, straps, and laces are secured, examine the following: (a) looseness of pelvic band, (b) buckles should be on the outside of the leg, (c) knee pads should

be fastened loose enough to allow a finger to pass between the knee and the pad, and (d) the top strap of the knee pad should be above the knee lock.

Step 6. Pull the underpants on over the braces and complete dressing the child.

II. Procedure for Removing the Braces

Step 1. Place the child in the supine position with his legs fully extended. Remove trousers and underpants, then open all brace bands and straps. If Velcro bands are used, place the top band under the bottom band to prevent the bands from refastening. Unbuckle the knee pads, but do not pull the straps out of the loops.

Step 2. Unlace the shoes at least halfway and loosen the remaining portion. Hold the shoe while the child removes each foot.

Step 3. Lift the child out of the braces or allow him to roll out of the braces if he is capable of doing so.

PART II

CARE OF BRACES

CARE OF BRACES

1. Each week open all brace locks and clean out the joints. Lint or other dirt particles can be removed with a hairpin or fine strand of wire. Add a drop of heavyweight lubricant - for example, number 30 SAE oil or STP.
2. To remove rust, rub the metal parts with emery paper, then apply a light coat of mineral oil to slow down the reoccurence of rust.
3. Always keep leather parts in good condition. Repair all tears immediately. When perspiration stains occur on the leather parts, wash the leather with a combination of saddle soap and lukewarm water to clean and preserve the leather.
4. Keep the heels and soles of the shoes in good condition. Brace parts should not touch the floor during walking.
5. When braces are removed, stand them against a wall or place them fully extended on the floor or table. Braces should be handled with care.
6. Brace alignement should be checked frequently. Braces are constructed so that the joints coincide with body joints.
7. Before the child is fitted into his braces, check the following: (a) worn or damaged parts, (b) loose or missing screws, and (c) the condition of leather pads, straps, and metal buckles.
8. Each evening after bracing has been removed, examine the child's body for pressure marks or irritations. Braces are usually constructed so that the bands fit comfortably and no metal parts should come in contact with the skin.

PHOTOGRAPHIC ILLUSTRATIONS OF APPLIANCES AND APPARATUS USED IN TRAINING PHYSICALLY HANDICAPPED CHILDREN

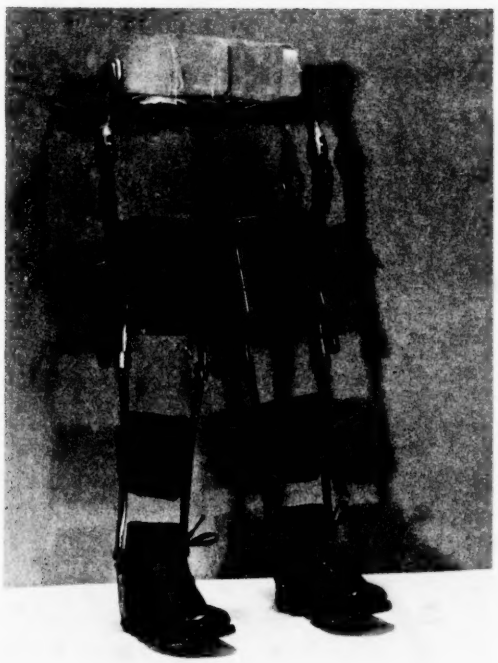


Figure 1. Long Leg Braces with Pelvic Band

Figure 2. Long Leg Braces

Figure 3. Braces with Twister Cables

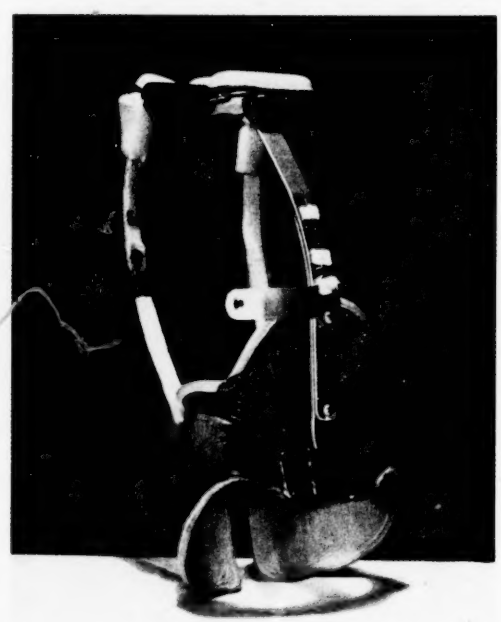


Figure 4. Milwaukee Brace

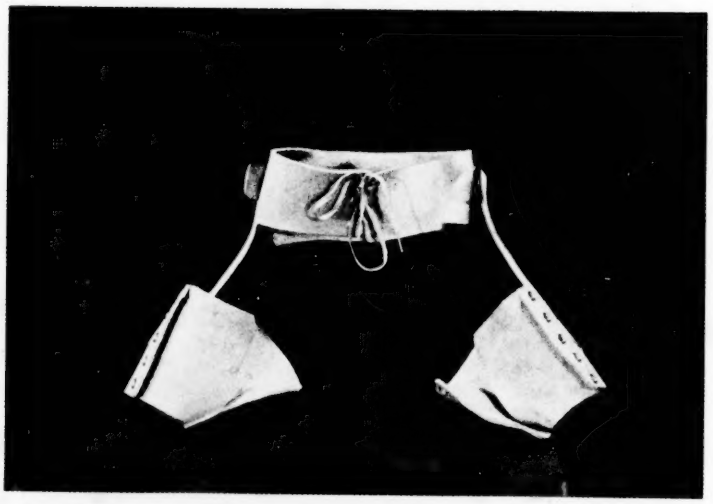


Figure 5. Lorenz Brace

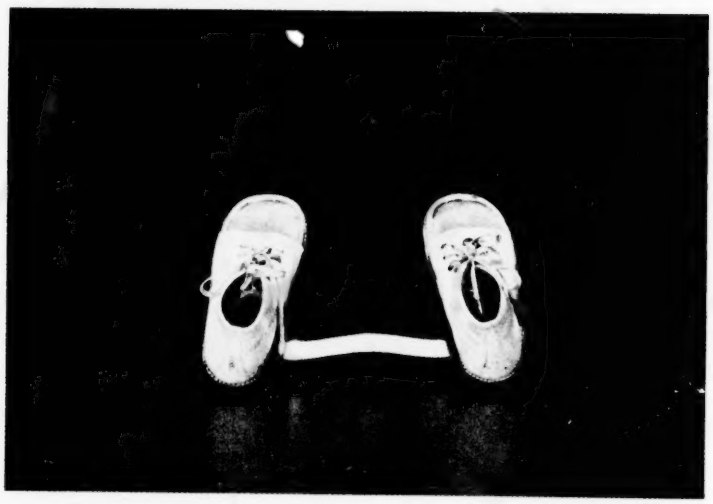


Figure 6.
Denis Browne Splint

Figure 7. Short Leg Brace

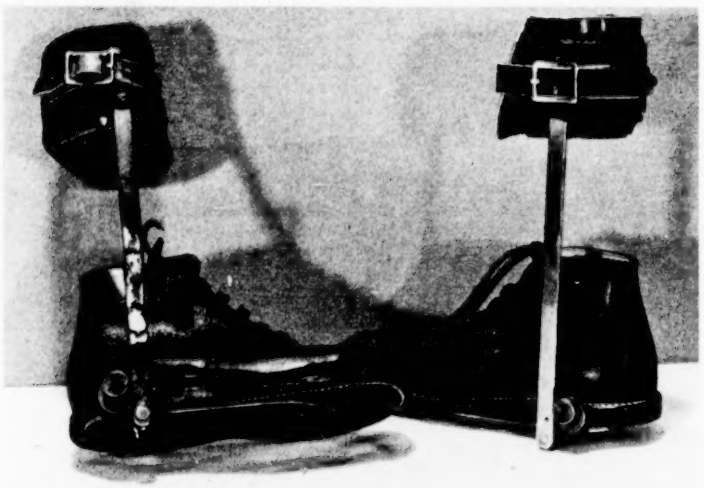
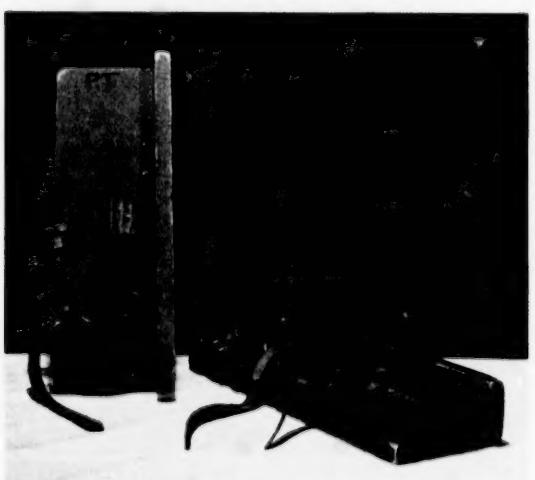


Figure 8. Pope Night Splint

Figure 9. Duck Soles

Figure 10. Wooden Skis



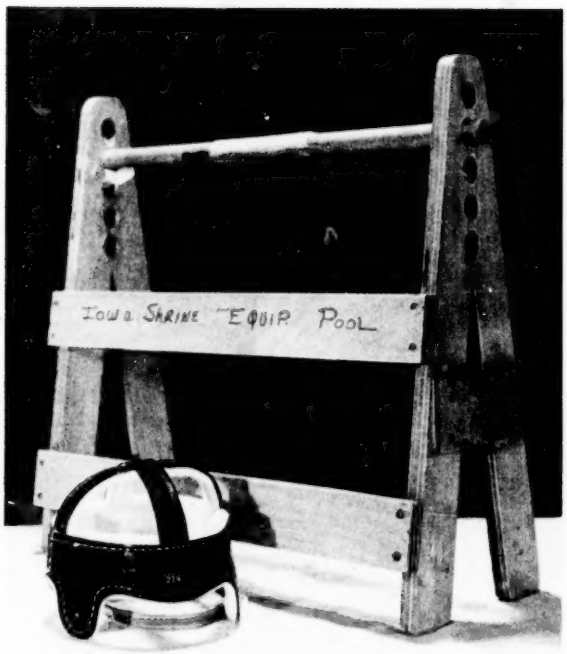


Figure 11. Sawhorse Crutches and Helmet

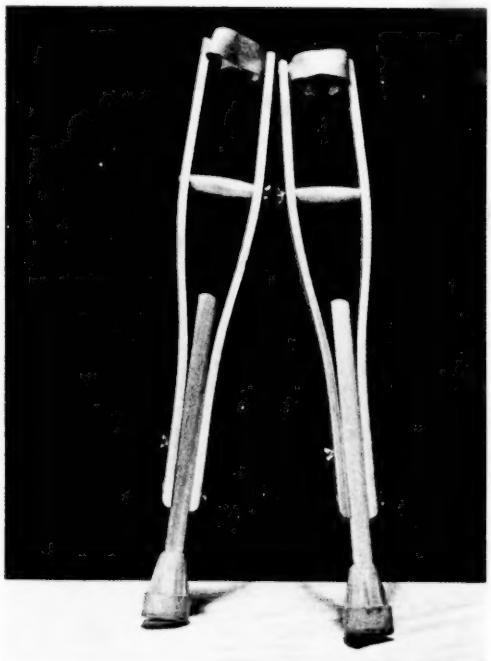


Figure 12. Canadian Crutches

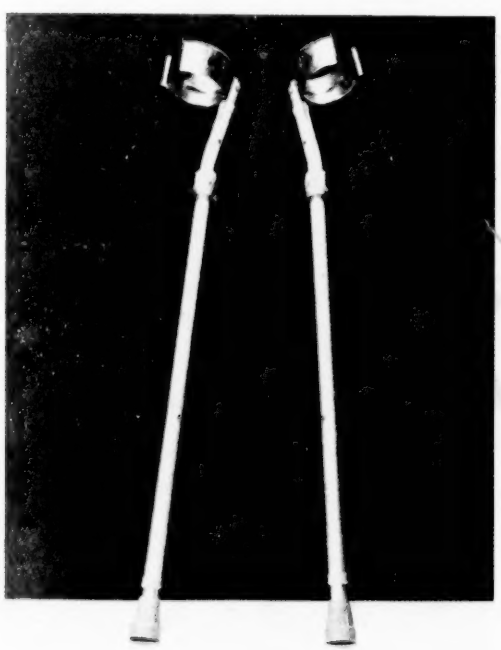


Figure 13. Lofstrand Crutches

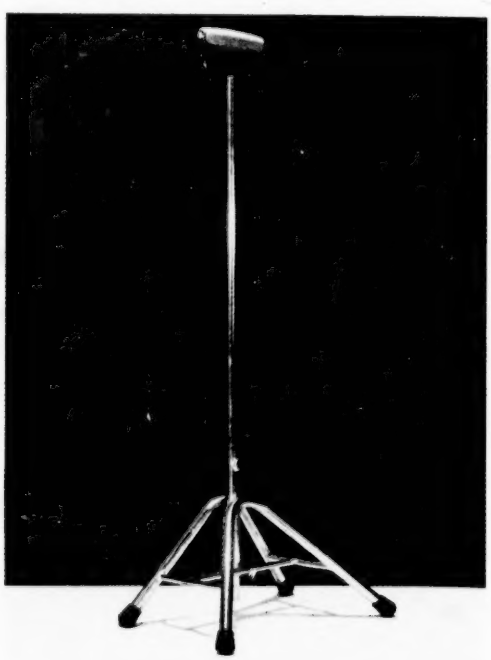


Figure 14. Quad Cane

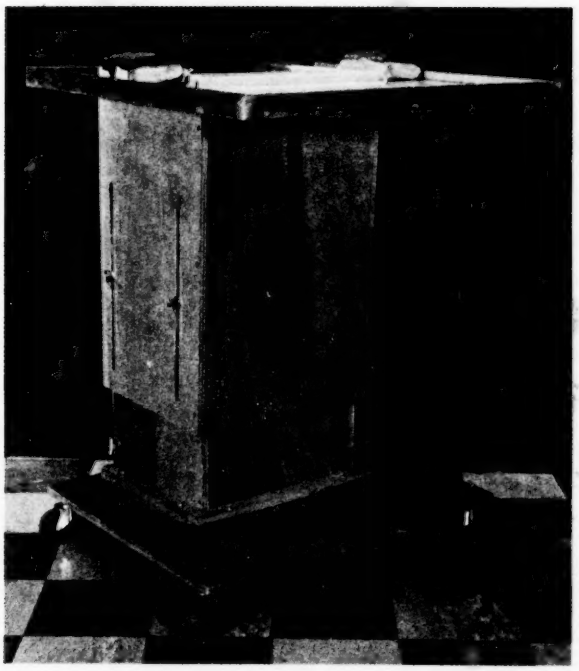


Figure 15. Standup Box

PHOTOGRAPHIC ILLUSTRATIONS OF PHYSICAL EDUCATION EQUIPMENT USED IN TRAINING PHYSICALLY HANDICAPPED CHILDREN

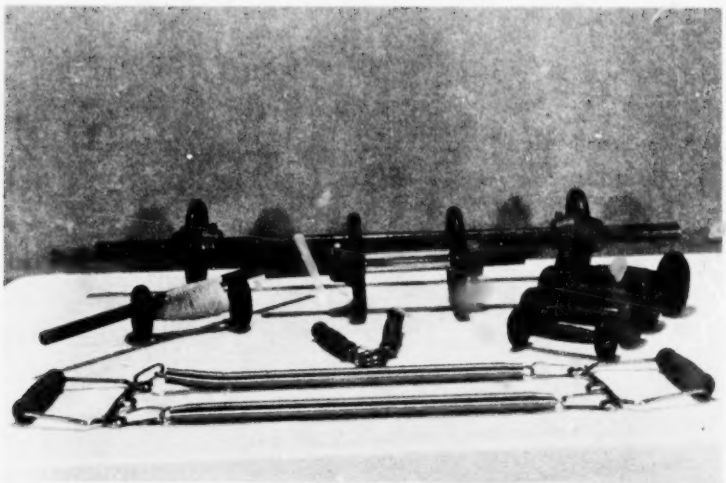


Figure 1.
Exercise Equipment

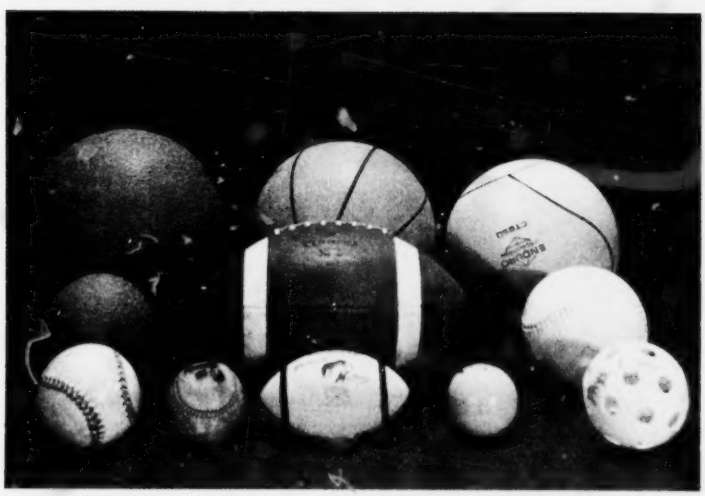


Figure 2. Balls

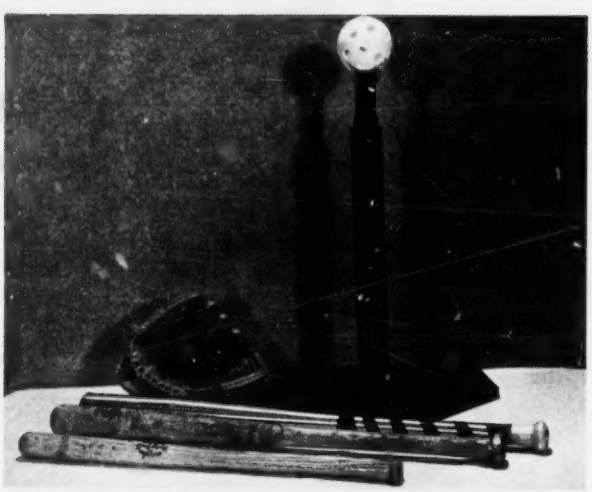


Figure 3. Bats and
Batting T

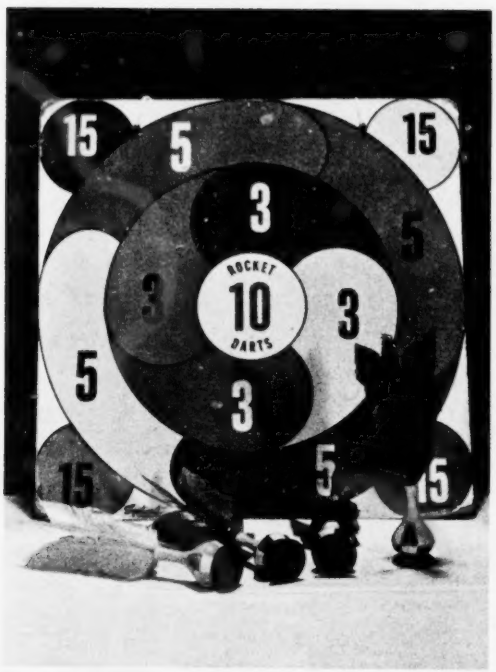


Figure 4. Suction Darts and Target

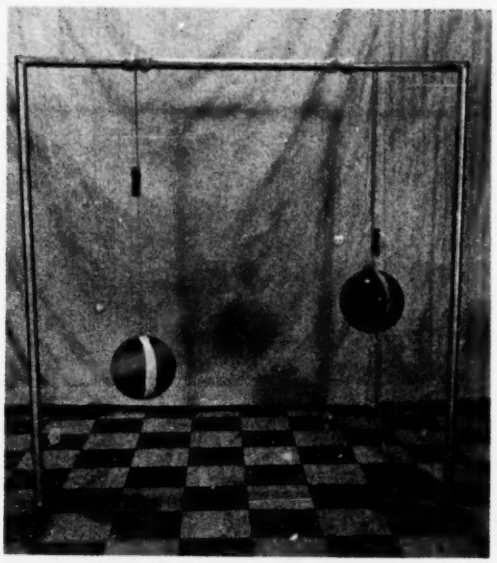


Figure 5. Suspended Balls

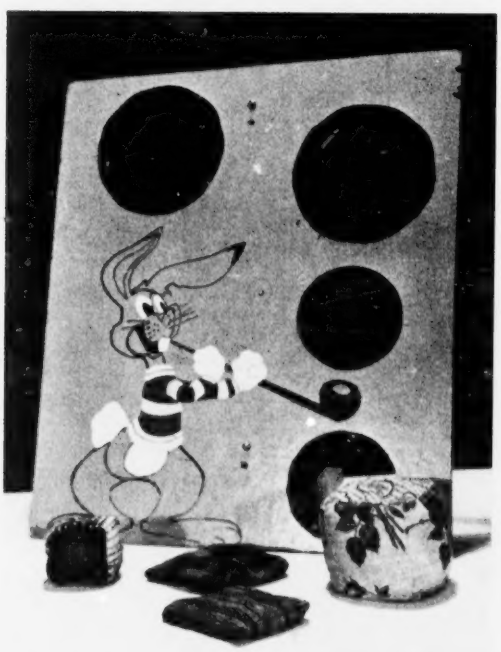


Figure 6. Bean Bags and Target

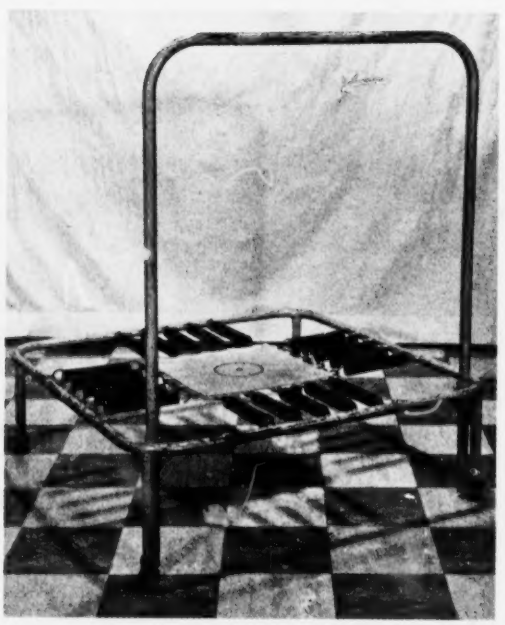


Figure 7. Jumper Unit

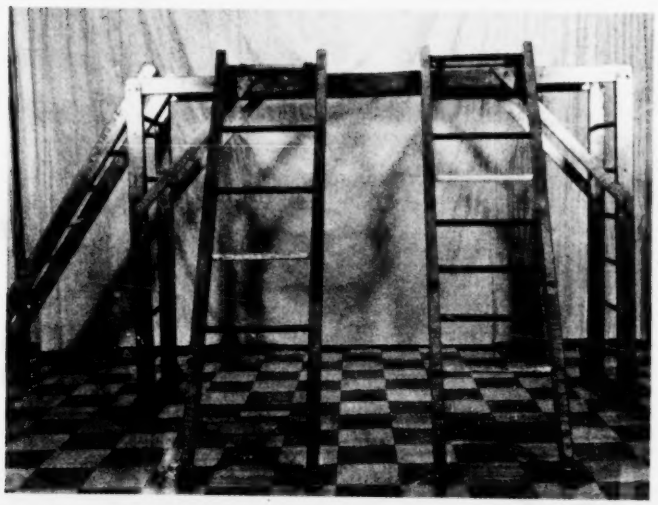


Figure 8.
Climbing Ladder With
Accesso_ Ladders

Figure 9.
Tricycle With Box
Trailer

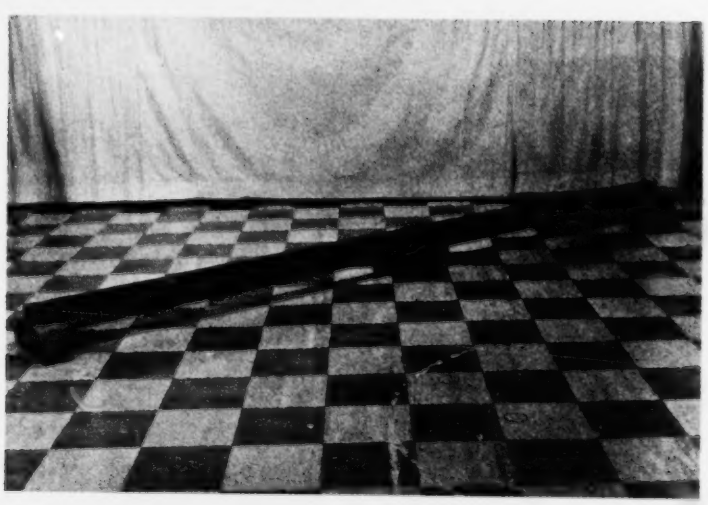


Figure 10. Balance Beam

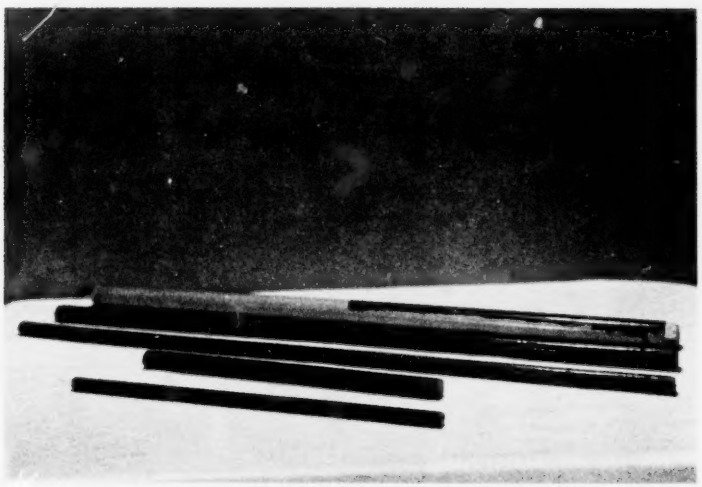


Figure 11. Wooden Wands

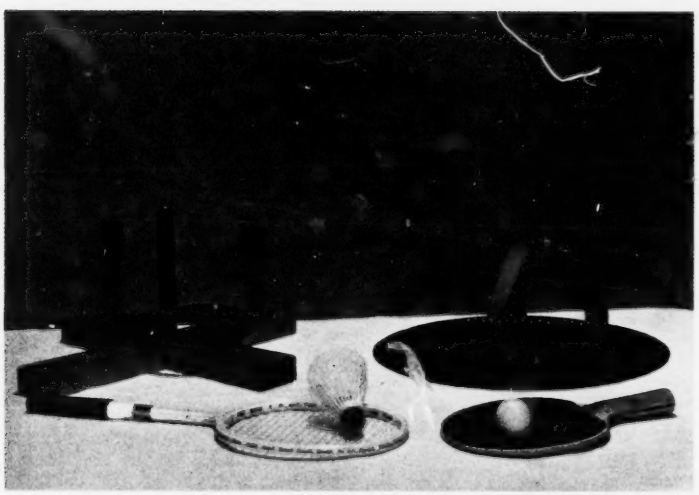


Figure 12. Miscellaneous Equipment

ILLUSTRATIONS FOR HOME CONSTRUCTION OF APPARATUS

SAWHORSE CRUTCHES

The child who is required to use sawhorse crutches in order to ambulate should use two sawhorse crutches for support. The hand bar is adjustable and should be adjusted to a height that will require the child to extend his arm to near full extension when he pushes down on the handle. A piece of moleskin or adhesive tape may be placed on the hand bar to remind the child where to place his hands and will also serve as protection against hand irritations.

When walking with the assistance of sawhorse crutches, the child should use a four-point gait. This means that to begin walking, the child should move the right crutch, then take a step with the left leg, move the left crutch, then take a step with the right leg. The child must continue alternating the arms and legs in order to move from one place to another.

Wood Required To Construct One Pair Of Sawhorse Crutches (see diagram Page 56)

4 3/4" x 9 1/2" x 27", Birch Plywood, Part A

4 3/4" x 3" x 22 1/2", Birch Plywood, Part B

2 7/8" x 7/8" x 24 3/4", Birch Plywood, Part C

4 3/4" x 3" x 6", Birch Plywood, Part D

Hardware Required To Construct One Pair Of Sawhorse Crutches (see diagram Page 57)

16 1 1/2" x #10 F.H. wood screws for securing the side braces, Part B in place.

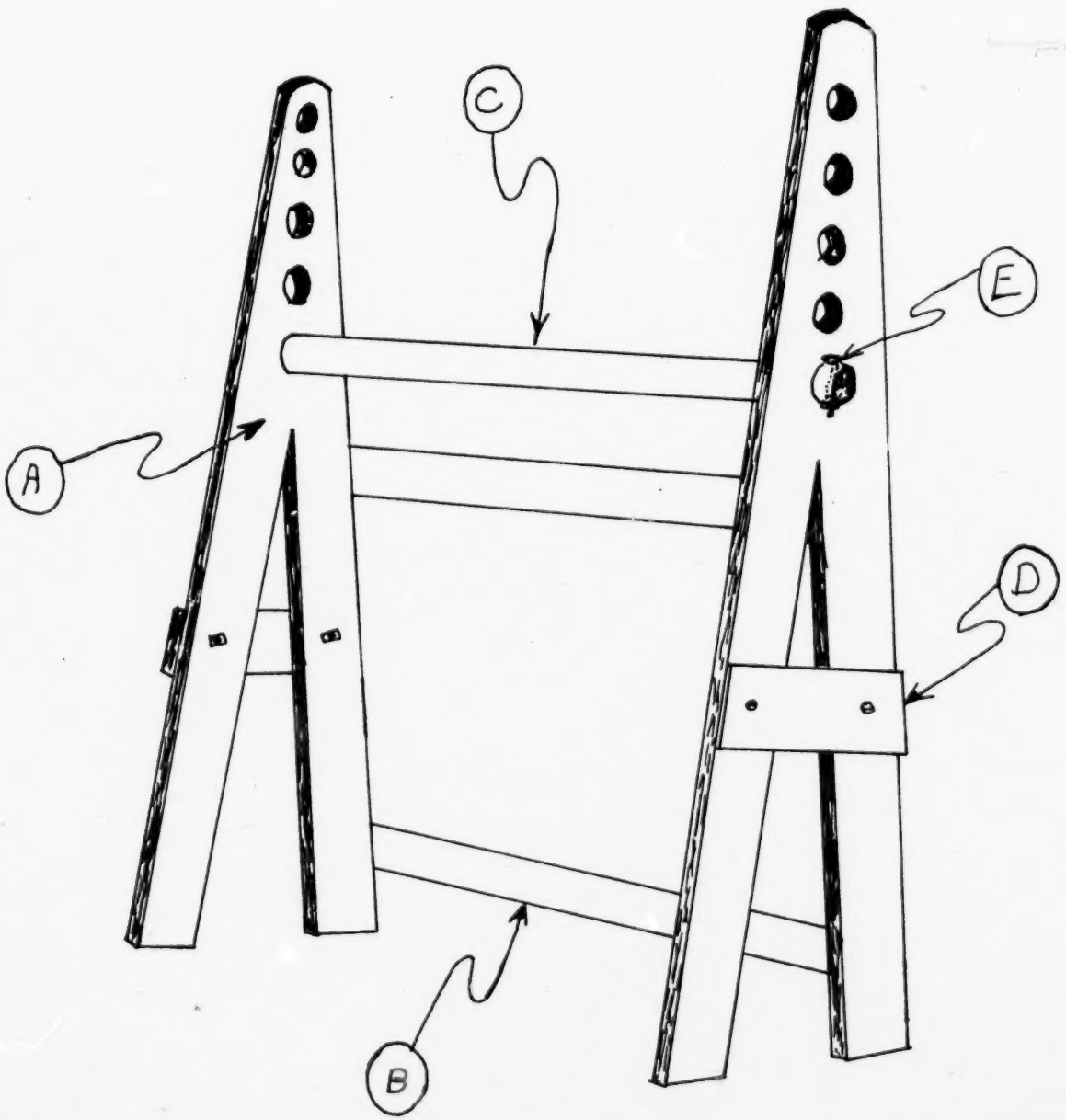
8 3/16" x 2" R.H. stove bolts complete with lock washers and nuts for securing the brace, Part D to the end pieces, Part A.

4 3/16" x 1 1/2" R.H. stove bolts complete with lock washers and nuts, Part E, for supporting the round 7/8" dowel in place. The bolts should be placed close to the end pieces, Part A, to minimize the forward and backward movement of the dowel.

Hardware Required To Construct One Pair Of Sawhorse Crutches (cont'd.)

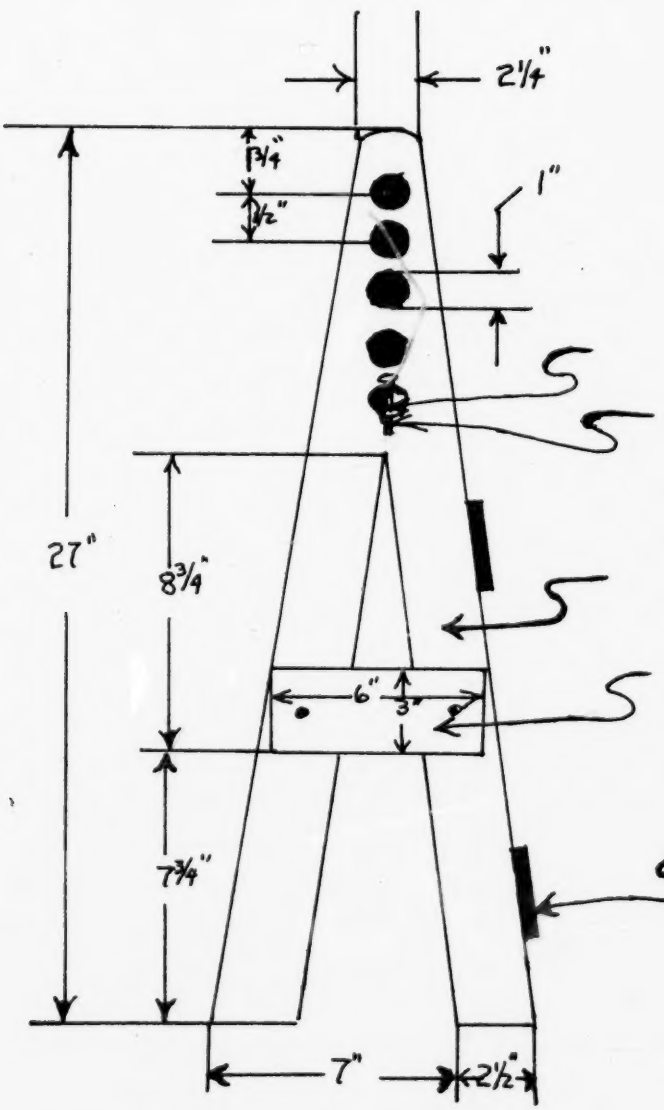
8 3/4" metal gliders should be placed on the bottom of each crutch leg to enable the crutches to glide more efficiently over the floor or walking surface.

SAWHORSE CRUTCHES



END VIEW

Scale 1" = 0'-5"



1" hole for 7/8" dowel

1/4" hole in dowel for 3/16" stove bolt

By removing the two 3/16" x 1 1/2" R.H. stove bolts, Part E, the round 7/8" dowel, Part C can be raised or lowered.

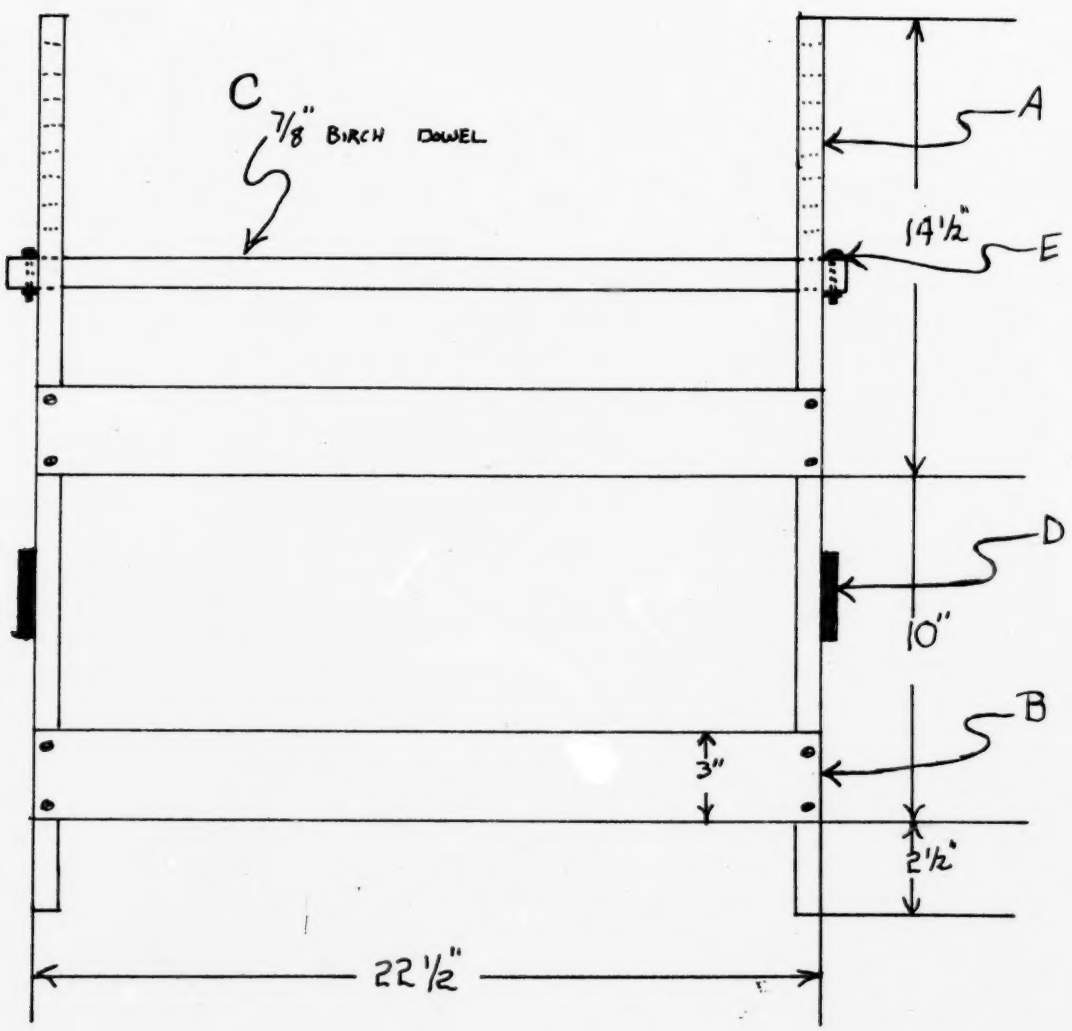
End piece, Part A

Brace - Part D

Brace - Part B

SIDE VIEW

Scale 1" = 0'-5"



THE ADJUSTABLE STAND-UP BOARD

The adjustable stand-up board is a device for supporting a physically handicapped child in the standing position.

The stand-up board may be constructed of 3/4 inch fir plywood, and may be painted or varnished. If birch plywood is used in the construction of the stand-up board, the wood should be varnished rather than painted. Birch plywood, available a the lumber yard, is more expensive than fir plywood; however, both woods are of equal strength and durability.

The adjustable stand-up board described in this section has been designed for children who are between three-feet and five-feet in height.

Wood Required To Construct One Adjustable Stand-Up Board (see diagram Page 61)

1 Base, Part A, 3/4" x 24" x 42".

1 Upright Support, Part B, 3/4" x 14" x 28".

1 Top Support, Part C, 3/4" x 14" x 28".

Hardware Required To Construct One Adjustable Stand-Up Board (see diagram Page 62)

2 Conduit, Part D, 21" x 3/4" inside diameter.

2 Conduit, Part D, 19" x 1/2" inside diameter.

3 4" strap hinges and screws, 3/4" #10, Part E used for supporting the upright, Part D to the base, Part A.

2 Carriage bolts, 3/8" x 2", complete with washers and wing nuts, Part F. Use extra large washers to cover the 1/2" groove in the upright support, Parts B and C.

3 Leather belts, approximately 1" x 40" including buckles, Part G. The belts are used to support the child in the standing position. The belt should be cut in the middle and attached to the sides of the top support piece, Part C. Velcro may be used as a substitute for buckles.

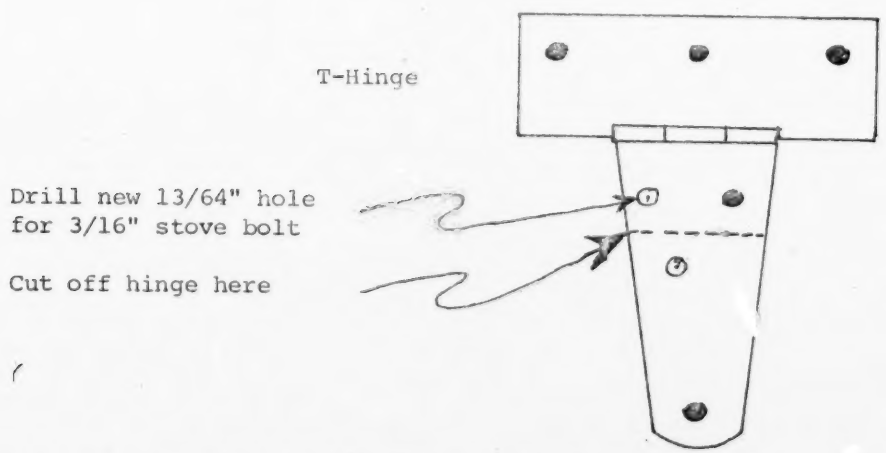
2 Foot treads, 4 1/2" x 18", Part H. Rubber treading is preferred; however, an old inner tube or door mat will be satisfactory. The foot treads may be glued or nailed in place. The foot treads will prevent the feet from sliding backwards when the child is standing upright.

4 Stove bolts, 3/16" x 1 1/4" R.H. complete with lock washer and wing nut to connect hinge bracket with the conduit, Part L.

12 3/4" #9 R.H. brass screws with flat washer for attaching leather belts, Part G.

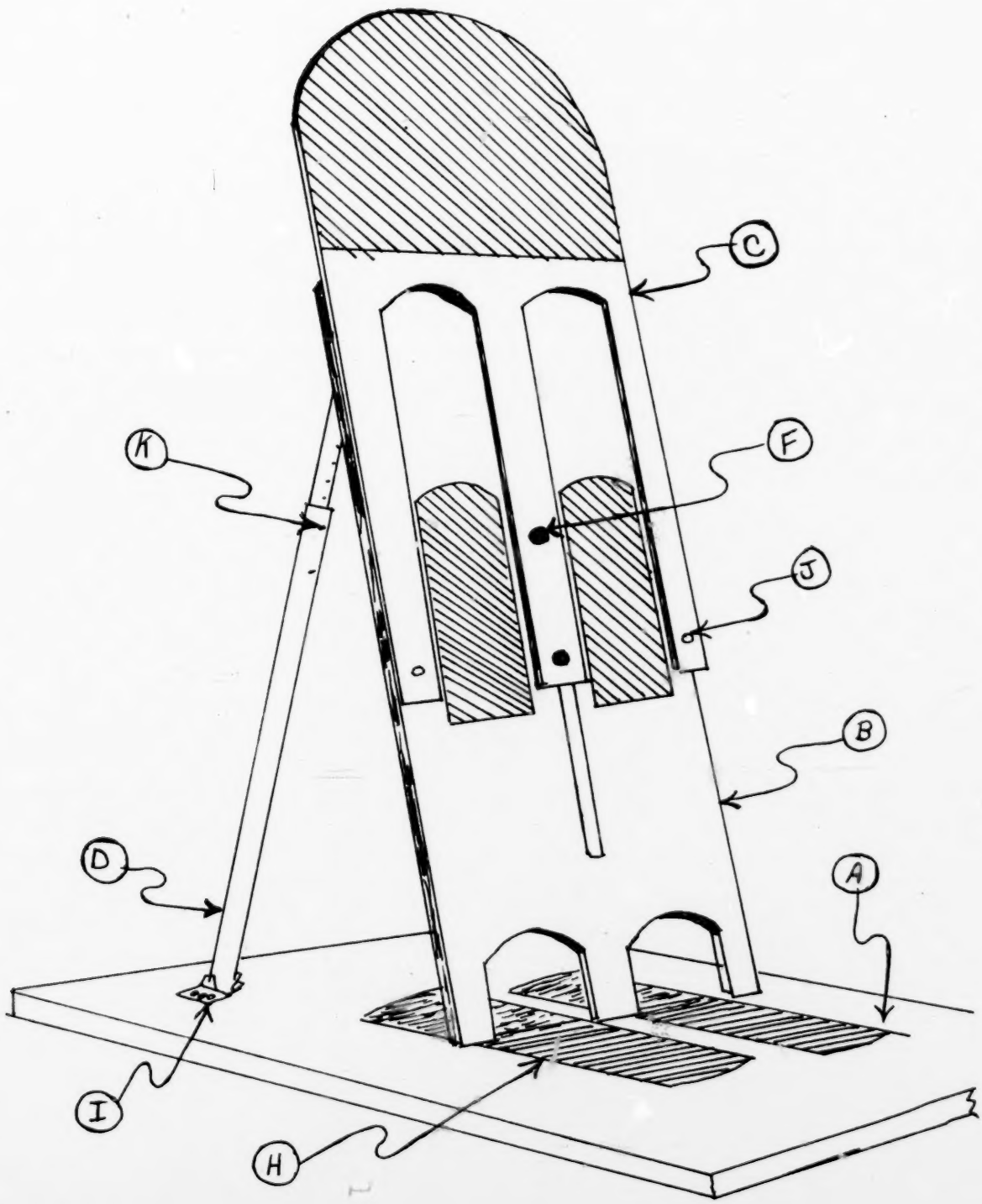
4 3/16" x 1 1/2" R.H. stove bolts complete with lock washer and wing nut, Part K. Insert bolts through the two holes in the large piece of conduit, Part D when the position of the board has been determined.

8 2" T-hinges and screws, Part I, for supporting the conduit, Part D. The hinges should be cut off, and a 13/64" hole should be drilled for a 3/16" stove bolt as shown in the illustration below.

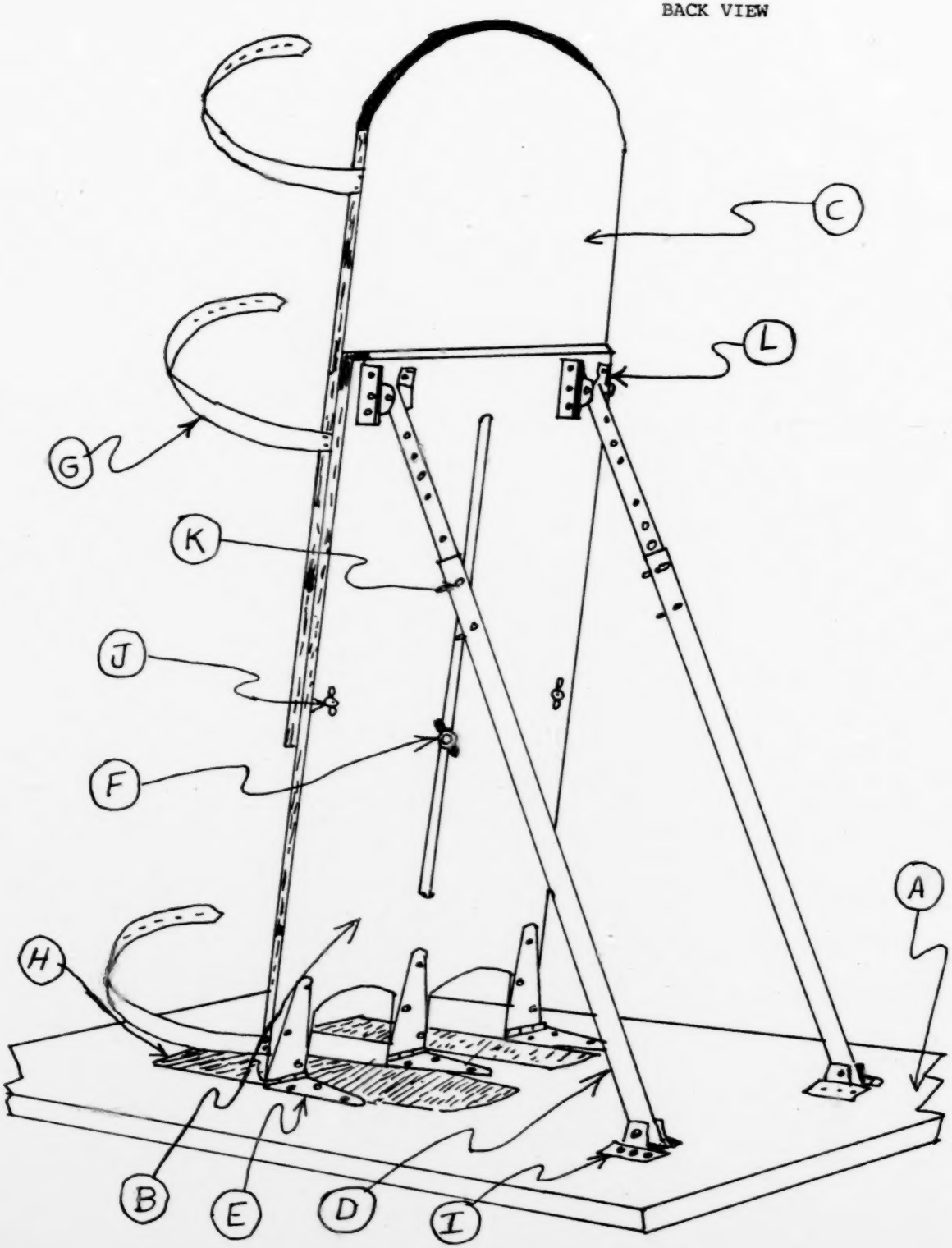


2 3/16" x 1 3/4" R.H. stove bolts complete with lock washer and wing nut, Part J. The stove bolts are used to bind the two upright pieces, Parts B and C together. The height of Part C will be determined by the height of the child. When the correct height is determined, drill two holes and secure Parts B and C with the two stove bolts. Additional holes must be drilled whenever it is necessary to change the height of the board, Part C.

FRONT VIEW

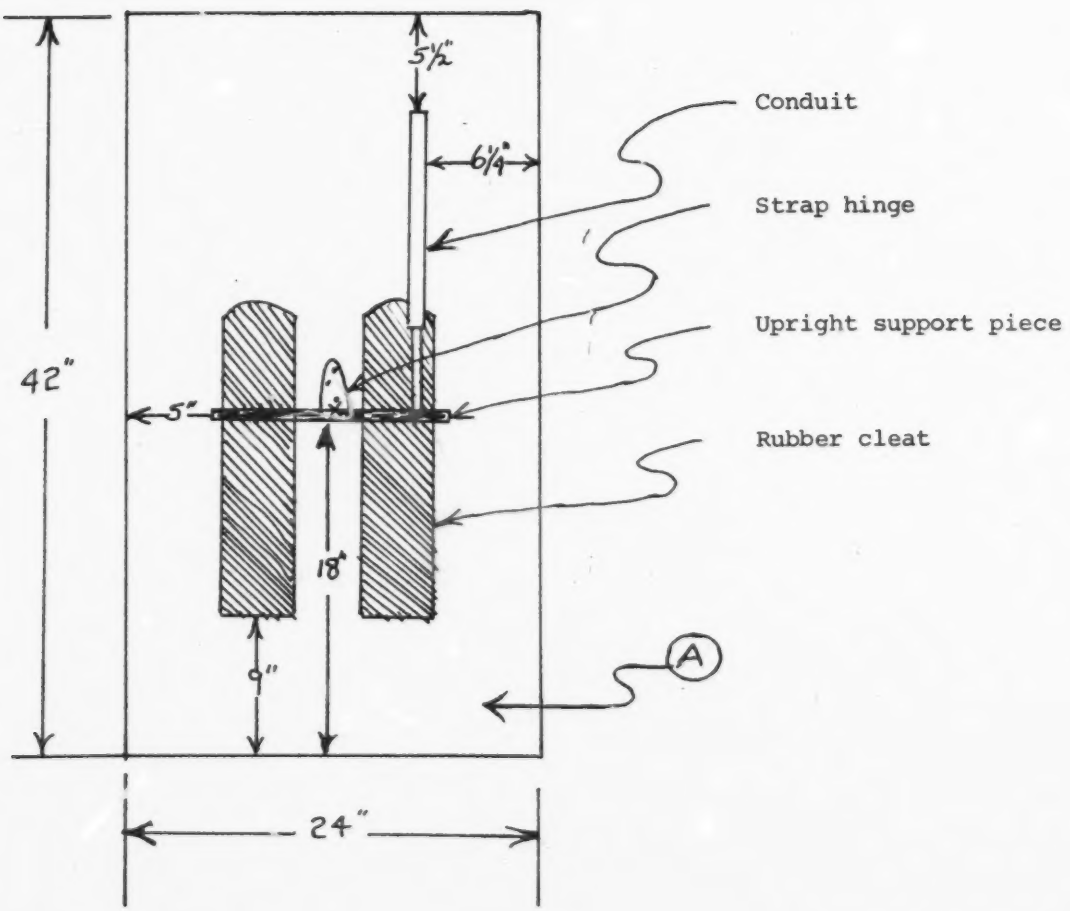


BACK VIEW



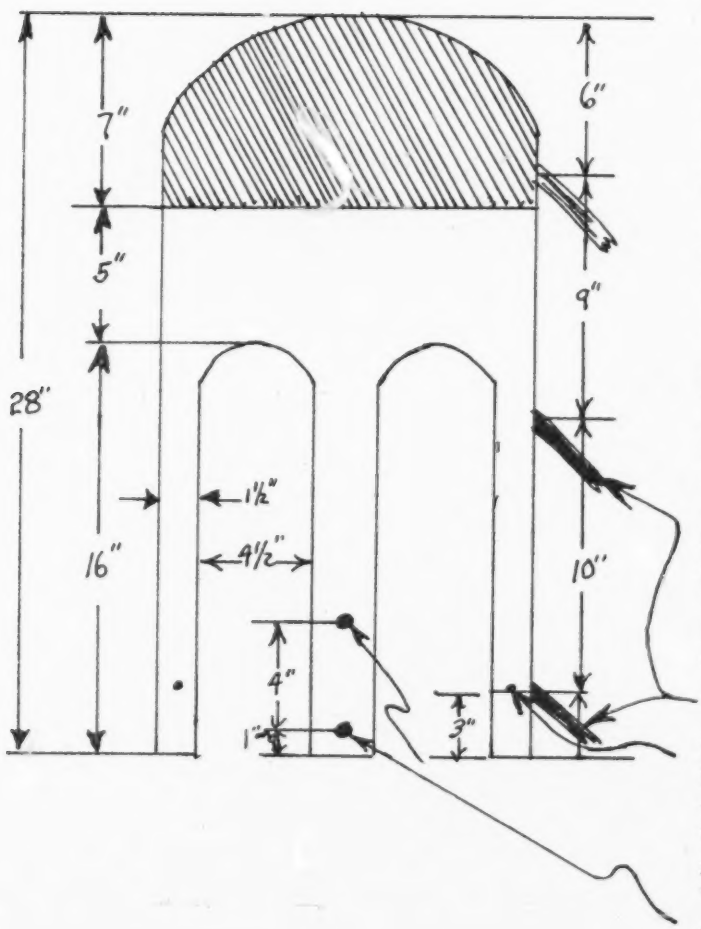
BASE, TOP VIEW

1 piece, 3/4" x 24" x 42" Scale: 1" = 0'-10"



TOP ADJUSTABLE SUPPORT PIECE, FRONT VIEW

1 piece, 3/4" x 14" x 28" Scale: 1-1/2" = 0'-10"



The top support piece is adjustable up and down to meet individual needs. The two carriage bolts with the wing nuts are used at the bottom. Loosen the wing nuts to raise the board. Tighten the wing nuts to secure the board in the desired position. To provide more comfort, a padded cover should be placed over the top 1/4 of the upright support, (the shaded area on the diagram at the left). A good type of padding is 2" foam rubber covered with a suitable upholstery material. The upholstery material should be fastened at the edge with staples or upholstery tacks. Padding is also required for knee support on the upright support piece. Position and size of the padding is shown on page 65.

Leather belts.

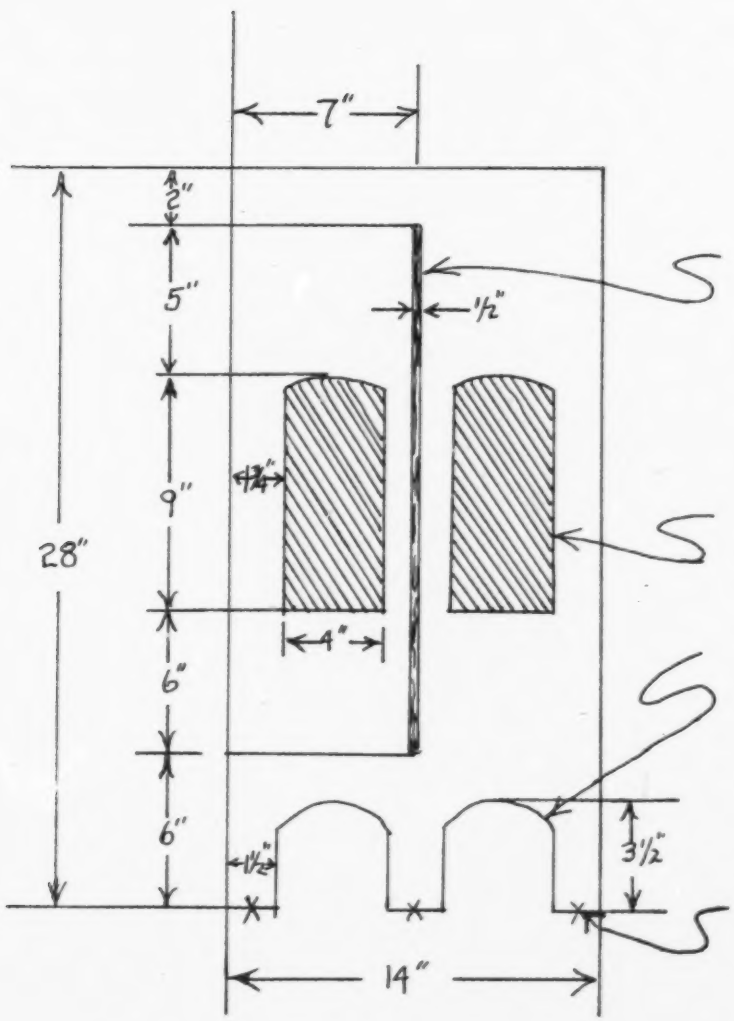
Use the two 3/16" x 1-3/4" R.H. stove bolts for securing the two upright pieces together when in the desired position. Drill the hole through both pieces.

Carriage bolts

Three leather belts Part G should be placed in the proper position when supporting the child on the board. Secure the belts with screws. Washers should be placed on the screws to provide additional holding power on the belt. Place two of the belts with 3/4" - #9 R.H. screws and washers on the top adjustable support piece as shown above. The bottom belt serves to hold the feet in place. Secure the bottom belt on the upright support piece, Part B, with the same size screws.

UPRIGHT SUPPORT PIECE, FRONT VIEW

1 piece, 3/4" x 14" x 28" Scale: 1-1/2" = 0'-10"



Cut groove through entire thickness of wood.

Padding for knee support.

Foot cutout.

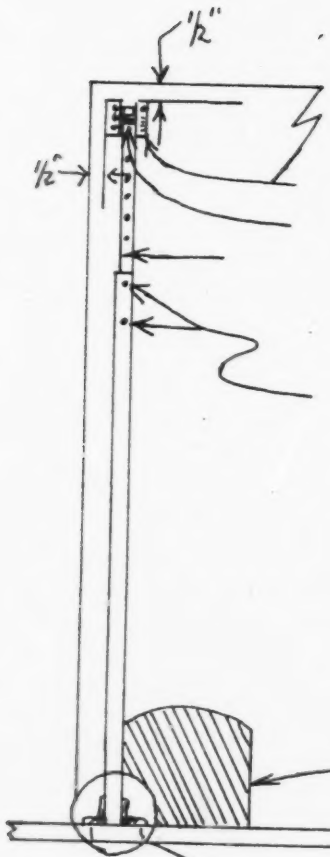
The three 4" strap hinges should be placed where the X's are on the back side. This enables the piece to be adjustable until fixed in the desired position. Secure in place with screws. Placement of strap hinges is shown in the Base, Top View, Page 63. Use 3/4"-#10 screws to secure the strap hinges.

ADJUSTABLE CONDUIT PIECES, BACK VIEW

Scale: 1-1/2" - 0'-10"

2 pieces, 21" x 3/4", inside diameter
2 pieces, 19" x 1/2", inside diameter

Base placement is shown in Top View, Page 63.
Top placement is shown on this page.



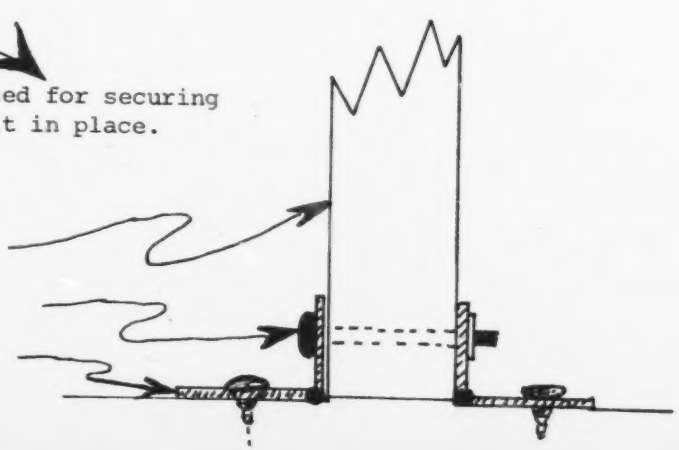
Secure 2" hinge brace to upright piece with screws.
3/16" x 1-1/4" R.H. stove bolt.
13/64" holes drilled 1" apart.

Two stove bolts, 3/16" R.H. x 1-1/2" are placed through the holes at the desired angle. Secure in place with a lock washer and wing nut. The two holes drilled in the large piece of conduit are 2" apart.

Foot cutout.

Base of stand-up board, Part A.

Metal T-hinge bracket used for securing top and bottom of conduit in place.



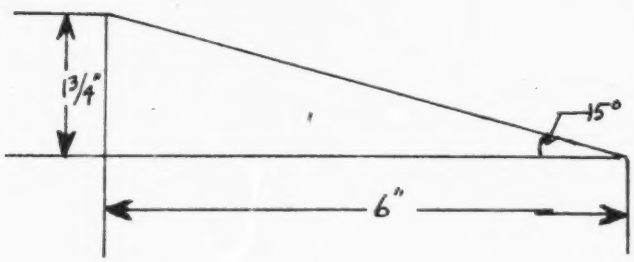
Conduit

3/16" x 1-1/4" R.H. stove bolt.

2" T-hinge.

FOOT WEDGE, SIDE VIEW

Scale: 1/2" = 0'-1"



NOTE: If a tilt of more than 15 degrees is recommended, place a wedge under the child's feet for comfort. The wedge angle for the foot pieces should be approximately 15 degrees. Secure the wedge angle in place on the rubber foot rest with nails or screws.

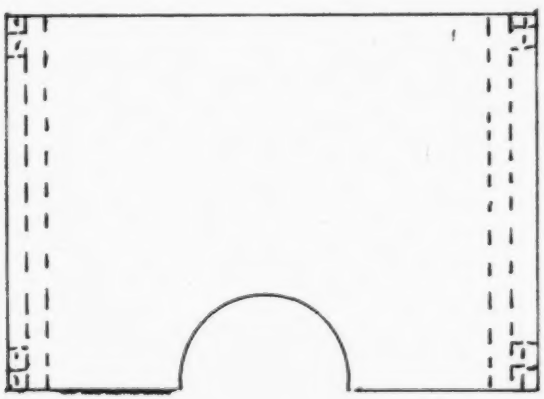
DISASSEMBLING INSTRUCTIONS:

By removing the wing nuts and bolts supporting the conduit, the upright pieces will fold down flat. The entire length when folded should not exceed 52" making the stand-up board quite easy to transport.

CUT-OUT TABLE

Materials Required To Construct One Cut-Out Table

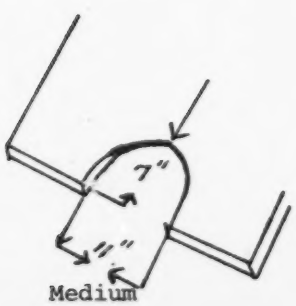
1	Table top	Wood	3/4" x 24" x 36"
2	Sides	Wood	2" x 4" x 24"
4	Stationary legs	Wood	2" x 4" x 13 1/2"
4	Adjusting legs	Wood	1" x 4" x 13 1/2"
4	Bolts, washers, wing nuts	Steel	3/8" x 2"



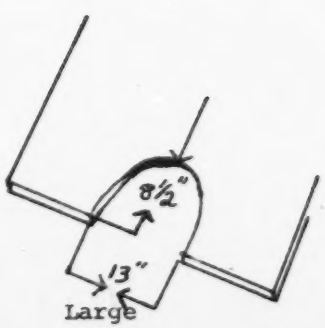
Top View

Cut-Out Demensions

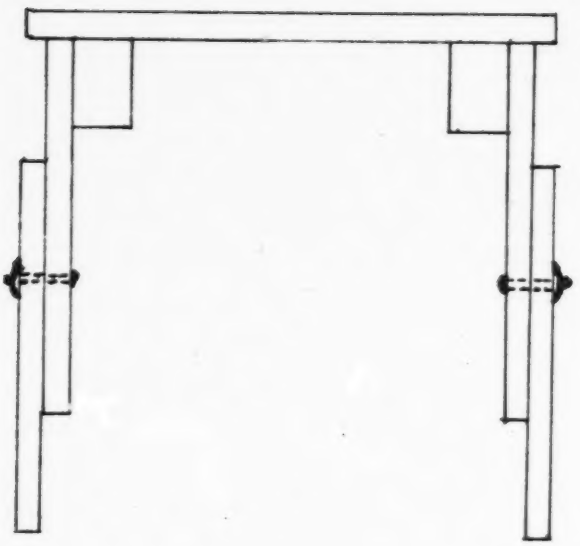
Small



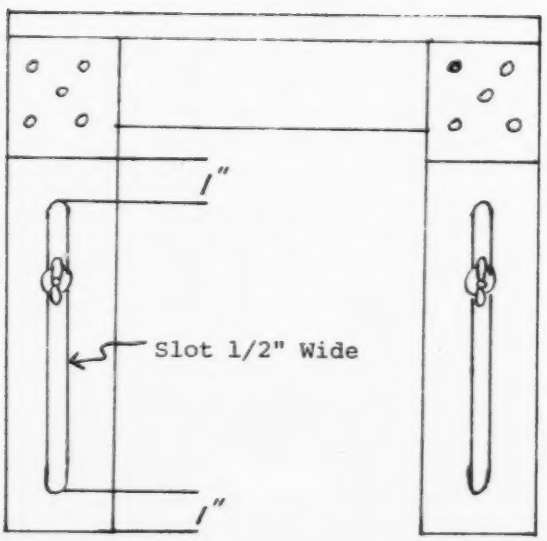
Medium



Large

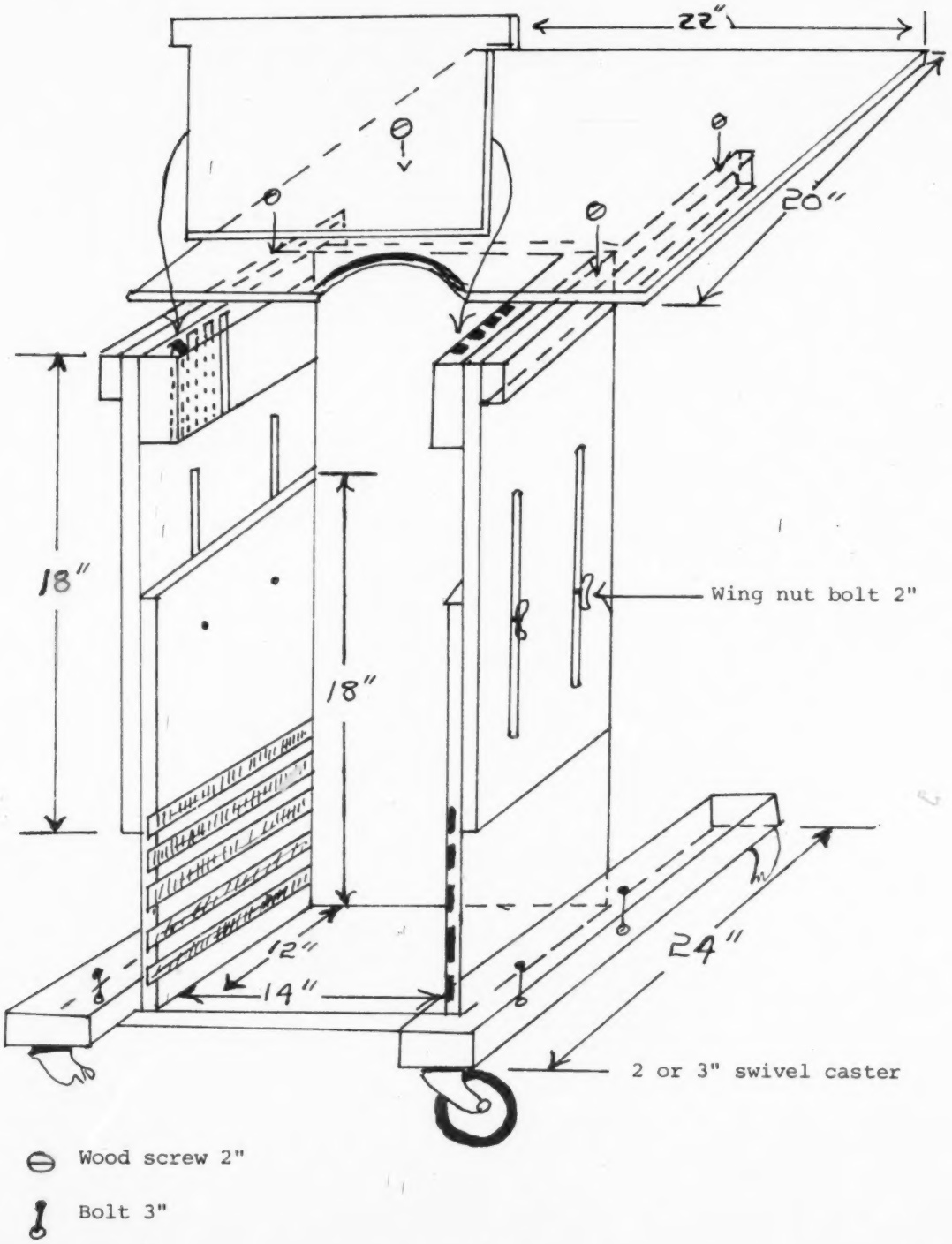


Front and Back View



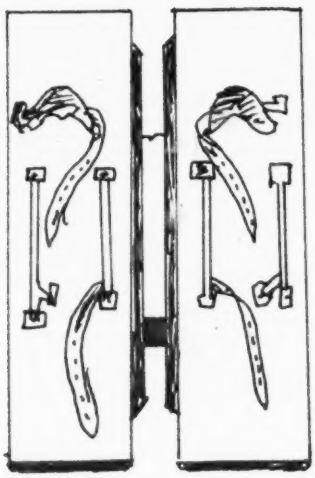
Side View

ADJUSTABLE STAND-UP BOX

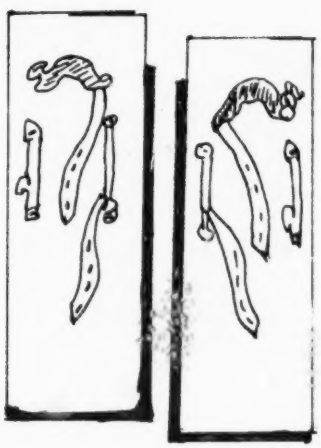


SKIS

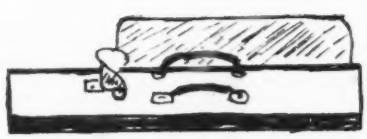
For Balance Training



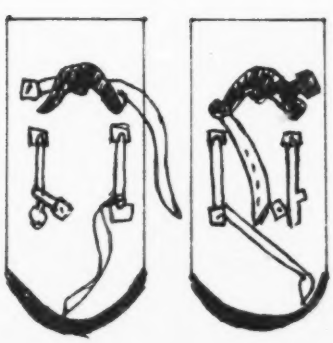
Stationary
5 1/2" W. by 24" L.
Heel 5 1/2" from end



Long
4 1/2" W. by 24" L.
Heel 5" from end



Side View



Short
4 1/2" W. by 16" L.
Heel 4" from end

GLOSSARY

ALTERNATE	One following the other in time or place; by turns first one and then the other
EXTEND	To straighten out
FLEX	To bend
FOREARM	The body part between the elbow and the wrist
LOWER LEG	The body part from the knee to the foot
PRONE	Lying with the face downward
ROTATE	To turn around; to twist
STRIDE POSITION	Standing position in which the legs are apart laterally
SUPINE	Lying on back, face upward
THIGH	The portion of the lower extremity situated between the hip above and the knee below
UPPER ARM	The body part between the shoulder and the elbow